THE

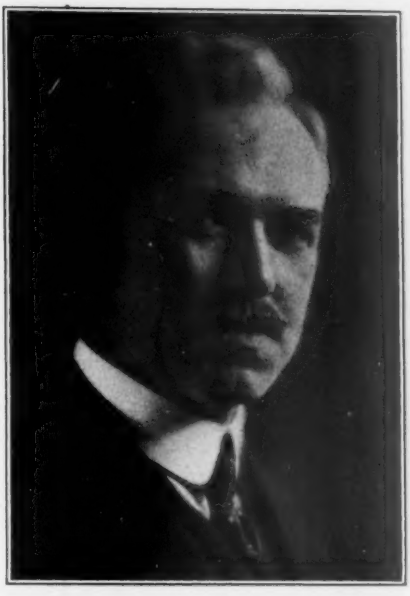
MINING CONGRESS JOURNAL

FEBRUARY, 1919

VOL. V

SAFETY—EFFICIENCY—CONSERVATION

No. 2



O. P. HOOD

Chief Mechanical Engineer of the Bureau of Mines, who will direct the special investigation to be made of lignite.

PUBLISHED BY

THE AMERICAN MINING CONGRESS

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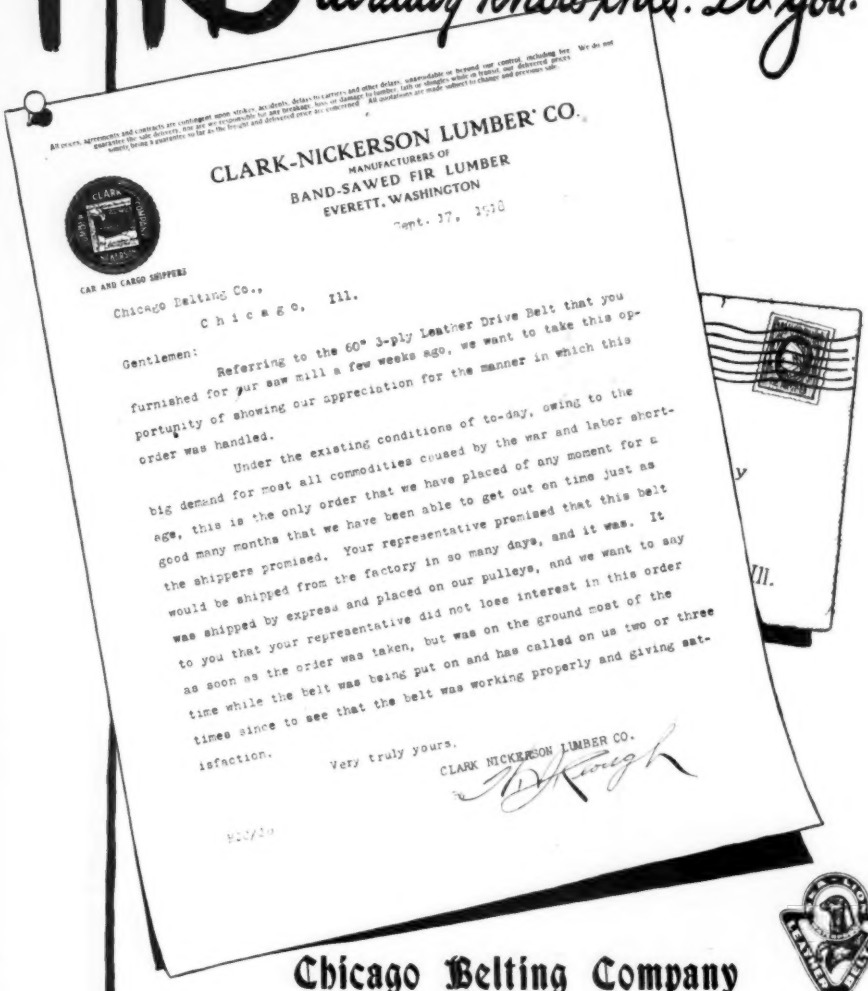
NB Thousands of belt users already know this. Do you?



CLARK-NICKERSON LUMBER CO.
MANUFACTURERS OF
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EVERETT, WASHINGTON

Sept. 17, 1918

CAR AND CARGO SHIPPERS

Chicago Belting Co.,
C h i c a g o, Ill.

Gentlemen:

Referring to the 60" 3-ply Leather Drive Belt that you furnished for our saw mill a few weeks ago, we want to take this opportunity of showing our appreciation for the manner in which this order was handled.

Under the existing conditions of to-day, owing to the big demand for most all commodities caused by the war and labor shortage, this is the only order that we have placed of any moment for a good many months that we have been able to get out on time just as the shippers promised. Your representative promised that this belt would be shipped from the factory in so many days, and it was. It was shipped by express and placed on our pulleys, and we want to say to you that your representative did not lose interest in this order as soon as the order was taken, but was on the ground most of the time while the belt was being put on and has called on us two or three times since to see that the belt was working properly and giving satisfaction.

Very truly yours.
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Cleveland
Detroit
New Orleans

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Chicago, U. S. A.

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San Francisco
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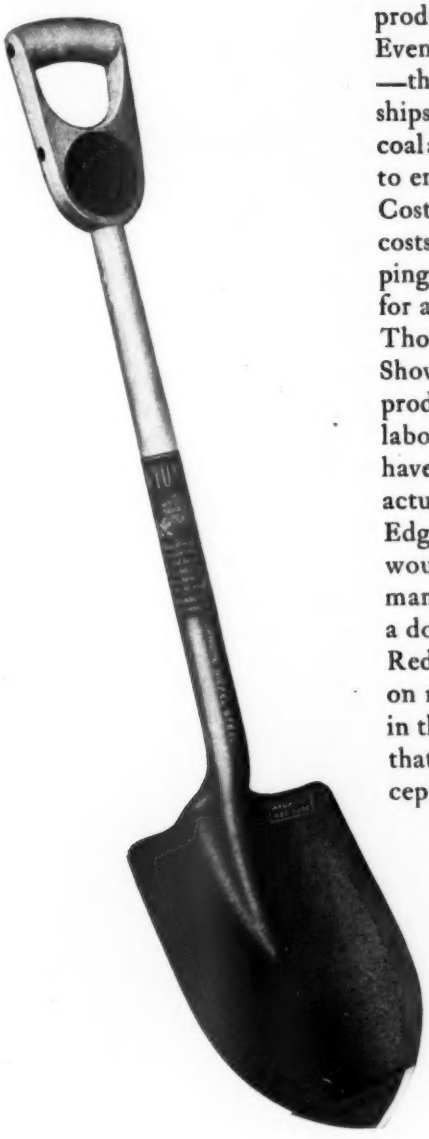


NOW down to Hard Pan.

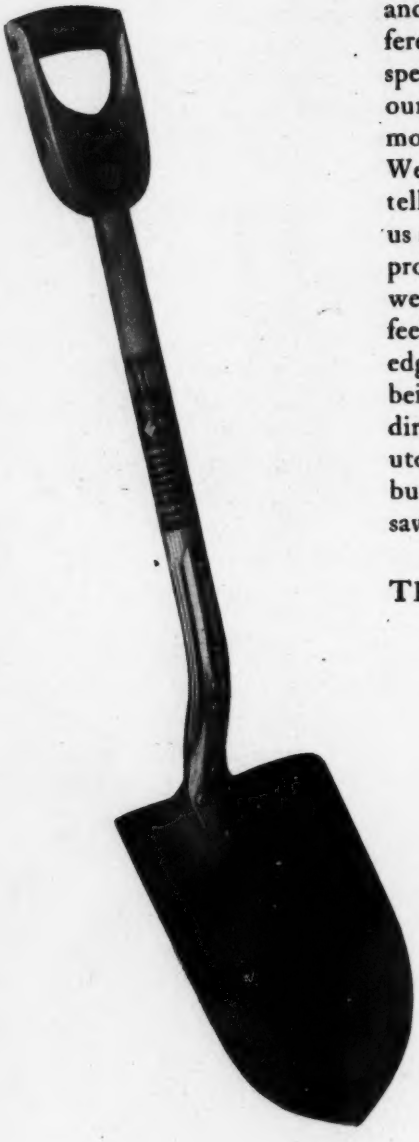
The past year or two have witnessed a tremendous urge for speed and quantity of production.

Even though this meant profligate methods —the cry was speed, more speed and more ships, shells and shovels—and copper and coal and nitrate and—Well, the list is too long to enumerate.

Cost systems were only made to upset. If the costs were high—raise the price—no stopping to investigate, no let down of production for a minute.

Thousands upon thousands of Red Edge Shovels were put out because they increase production. A combination of the difficult labor situation and ordinary shovels would have been disastrous. To try to have gotten actual figures as to relative values of Red Edge and ordinary shovels during this period would have taken more nerve than to ask a man who is running to catch a train to change a dollar.

Red Edge Shovels were bought in 1918—on reputation and faith and all we could get in the way of report was to the general effect that the shovels were doing very well—except in one case where we were told to attend



to our own business and send 500 dozen more. This isn't satisfying business though. When we hold to our quality standards throughout and never let the stress for production interfere to the slightest degree with our material specifications, our manufacturing practice or our test requirements—we want something more out of it than just orders.

We will get something more out of it, will tell you why in our next appearance—but let us say now that we are glad that conditions promise to be normal from now on so that we can have that old-fashioned, comfortable feeling that comes from the intimate knowledge that business is being earned instead of being just gotten. Send in some orders, either direct or through our nicely located distributors, and let Red Edge Shovels earn more business. While they are earning it—you are saving money.

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RED EDGE
SHOVELS

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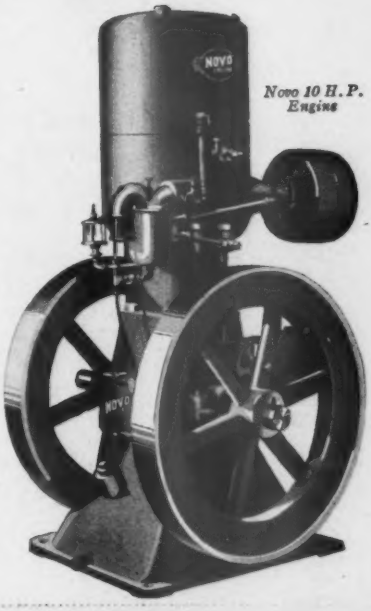

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THE MINING CONGRESS JOURNAL

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handles a wide range of conditions. For the past twenty-five years Cyclone Drills, equipped with Cable and Hollow Rod tools, have been used for:

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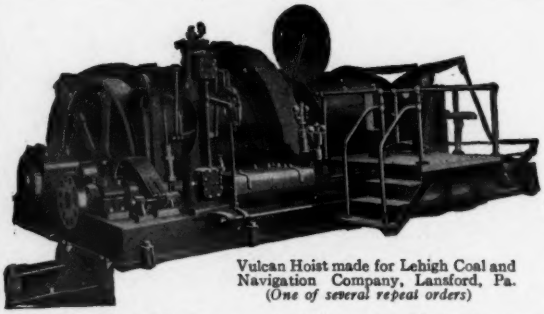

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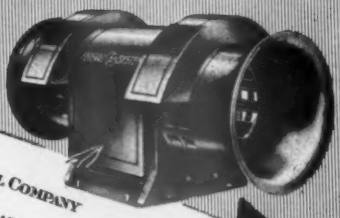

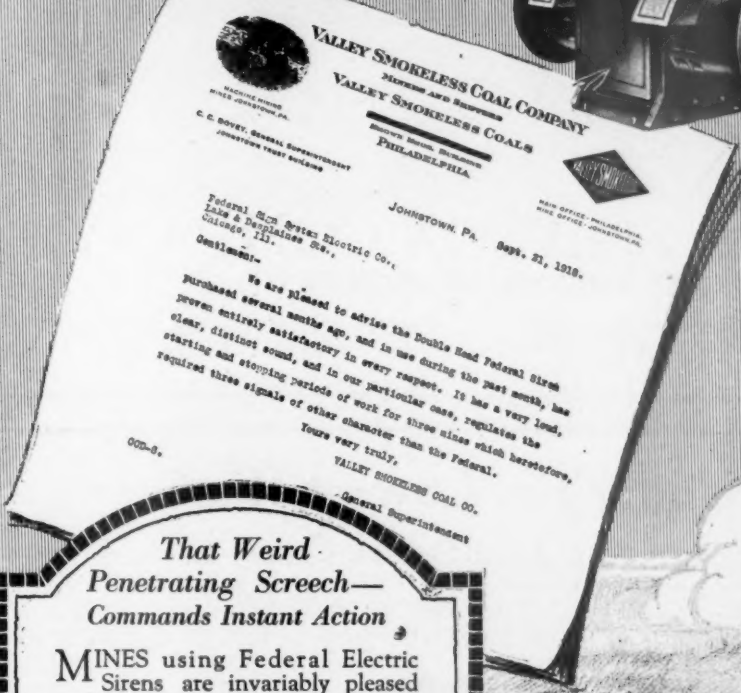

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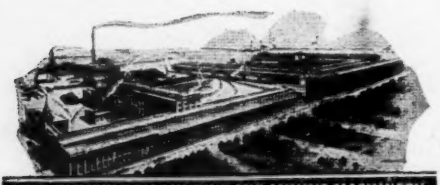

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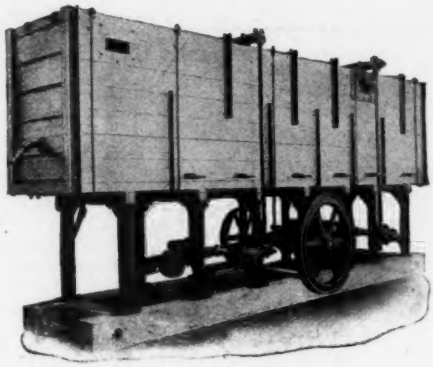

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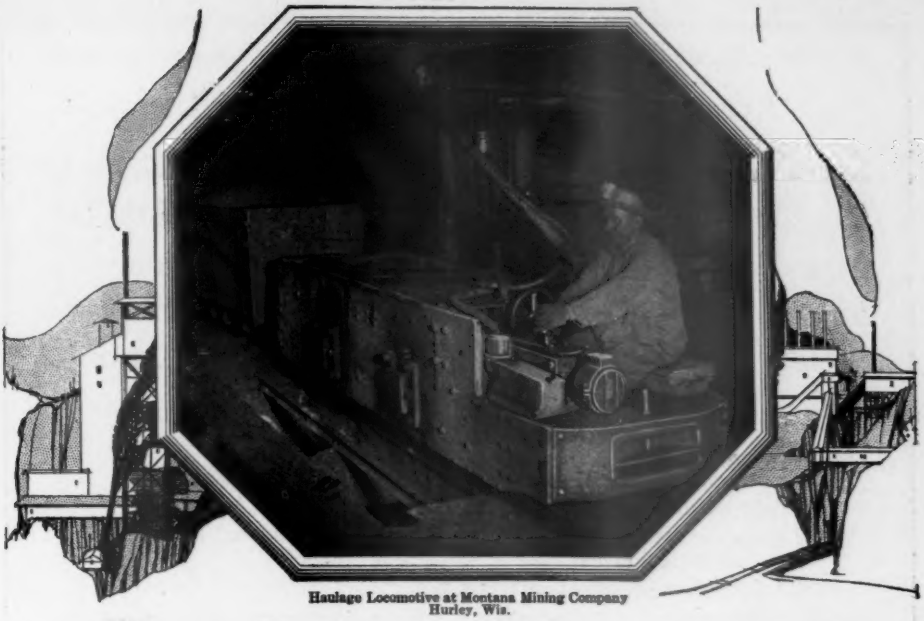

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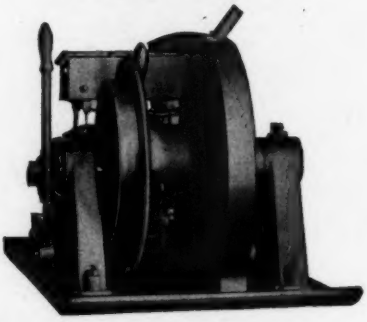

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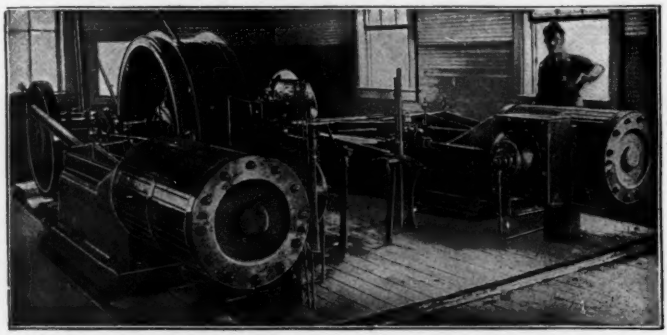

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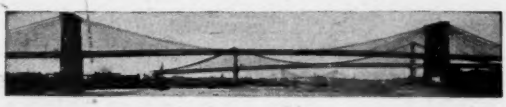

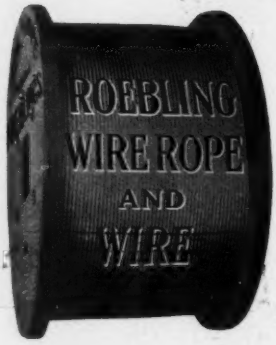

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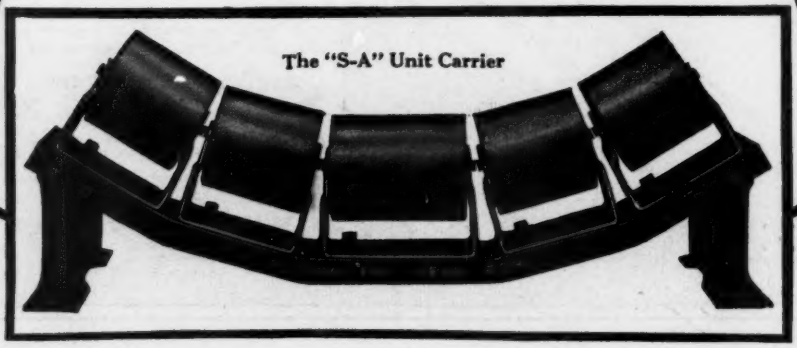

The "S-A" Unit Carrier

VOL. 5, NO. 2 WASHINGTON FEBRUARY, 1919

THE MINING CONGRESS JOURNAL

Official Organ of the American Mining Congress

PROTESTS LICENSE ISSUANCE

The American Mining Congress has placed before the import license division of the War Trade Board, a brief giving the documentary evidence to prove that should the War Trade Board continue its policy of admitting foreign manganese into this country under pre-war contracts, the glut of the American market, already resulting from the failure of the War Minerals Bill to function, will become so distressing that it will take many months for the manganese market to reopen to the domestic producer.

A few days ago the import license division issued two licenses, one for 10,000 tons and another for 1,500 tons of English-made ferromanganese. The applications for these licenses stated that this ferro had been contracted for previous to the declaration of war between the United States and Germany, and the contractors had been unable to fulfill their contracts with American consumers. They agreed that they would not place the incoming ferro in the open market, but that the entire tonnage should be delivered to one consumer. The War Trade Board circular authorized additional tonnage up to 8,500 tons upon the issuance of the proper license for import, but up to the time of filing of the American Mining Congress' protest, no additional licenses had been requested, and it is hoped that the pleas of the mining men for the further protection of an embargo will be respected, until some form of relief for the mining industry can be secured through Congressional action.

ESSENTIALLY BUREAUCRATIC

One of the misfortunes of the late Nicholas Romanoff was, that, having created certain bureaus, he was held responsible for their conduct, even though kept in ignorance of it. The poor fellow didn't even know that the people were displeased with his bureaus until he was practically deposed and placed under arrest.

The United States is a whale of a place. And a hundred millions are quite a few. The White House is nothing at all—compared with Pike's Peak. And the President is, after all, only an individual.

So, when the President—anyone—sits in the White House and creates bureaus to ramble all over the United States, he is going to have quite a job to see that they do not misbehave and damn him in the eyes of the whole people. A prudent President will not create bureaus. Or, if he does, he will cast them adrift from his person and make them stand on their own actions. At least, he will pin responsibility for them to the tails of the frock-coat of some member of his Cabinet.

All of which is apropos the action of one small subdivision of the United States Railroad Administration, which is a subdivision of Woodrow Wilson, after a manner of speaking. It is now approaching the 1st of April when, by custom, the railroads buy their fuel for the succeeding coal year. The Baltimore & Ohio found itself under necessity to buy coal. It drew up a contract covering the proposed transaction and submitted it to the coal companies. In it was one inno-

cent-looking clause to this effect (translated from the legal phraseology into English):

"We will take the coal and pay for it, if you keep your mouth shut. But, if you tell anybody how much we bought or what we paid, we will cancel the contract."

This, on its face, looks innocent enough—just a little precaution of the purchasing agent to keep the second buyer from knowing what the first paid, in the hope that the second price will be a little lower.

It isn't quite so innocent as it seems, when all the facts are known. Out in Illinois, Dr. Honnold had been made secretary of an association of operators. He faced two situations: The operators had hired him to do something, but didn't have the slightest idea what he was to do or could do. Also they were constantly being told by their salesmen:

"We will have to cut the price because the operator next door is cutting."

The salesman took the word of the buyer—always truthful and disinterested, of course. The operator took the word of the salesman. There was nothing else to do. So prices were cut. After years of this sort of shadow-boxing with imagined price-cutting competitors, the operators decided to hire Dr. Honnold and form an association. The doctor saw the situation, and said:

"If you want to know what prices are being charged, report to me the prices you accept. I'll tell everybody."

The lawyers said that was all right—so long as it referred to historical transactions. Some courts have said the same thing. So the scheme worked out in Illinois.

After that the National Coal Association was formed, and Mr. Morrow found himself occupying a duplicate of Dr. Honnold's early position. He decided to adopt the Honnold way out of it. With an open-price association covering the nation, lying to coal salesmen, as a means of beating down prices, promised to be not only unproductive but embarrassing. More to the point, it was going to cost the railroads some money, both now and in future.

Clearly, the only thing to do was to break up that open-price association. That desire was the father of the little scheme which the Baltimore & Ohio originated when it tried to bribe certain operators—with contracts—to refuse to report their prices.

Coming back to the late Nicholas of Russia. He fell, because what his bureaus did, made his administration unpopular. The Railroad Administration, by such tactics as described, are going to make the Railroad Administration unpopular.

ASKING FOR JUSTICE

The progress of the relief legislation asked by the war minerals division of the American Mining Congress, in behalf of producers of war minerals, has been slow but quite satisfactory because of the fact that in the preparatory work in connection with the passage of this legislation there has been laid a firm foundation upon which the claims for relief in the proposed measure may stand fearlessly and hopefully.

In order that the special legislation need not take the ordinary course, which is the fate of so many bills, it has, by consent of both committees on Mines and Mining and Military Affairs, been attached to Senator Chamberlain's amendment to the Dent Bill as referred from the House to the Senate. Two more amendments were added at the suggestion of the Department of the Interior, the first providing that the evidence must show that investments of time, money, and labor in these war minerals was the result of direct or indirect requests of the Department of the Interior, the War Industries Board, the War Trade Board, or some other authorized agency of the Government, and second, fixing a three months' limit during which the claims for relief must be presented in the proper form. As THE MINING CONGRESS JOURNAL goes to press, this legislation appears to be in a fair way for early passage upon a satisfactory basis.

SLIGHTLY ERRONEOUS

In a recent issue of the Engineering and Mining Journal, of New York, our highly esteemed friend, the editor, devotes considerable space to most peculiar and unfortunate editorial discussion of the objects of the relief legislation now before both Houses of Congress in connection with the failure of the War Minerals Bill to function.

After careful perusal of the aforesaid editorial, THE MINING CONGRESS JOURNAL cannot but wonder by what influence the editor was misled into assuming an attitude so unfair to the industry of which he is usually an able champion.

The readers of the Engineering and Mining Journal are led by the aforesaid editorial to believe that the men who responded to the Government's appeal for help in time of trouble, are little less than financial pirates who are endeavoring under the cover of patriotism to milk the United States Treasury for their own benefit. The editorial in question fails to give credit to a single man for a single honest impulse based upon patriotism or political righteousness.

Knowing the excellent standard attained and heretofore maintained by our esteemed contemporary, and the large and representative circulation of our contemporary, THE MINING CONGRESS JOURNAL believes that the publication of such erroneous statements at this time is most regrettable.

The attack on the proposed legislation is in fact an attack upon the integrity of the American Mining Congress and the honesty of its intention in fostering such legislation, because of the fact that the legislation is the result of the organization of the war minerals division of the American Mining Congress, which division, in turn, is composed of the producers of the various war minerals mentioned in the Henderson War Minerals Bill. The operators have made a most remarkable showing of negligence on the part of the United States Government in carrying out its moral obligations assumed under the stress of war.

The American Mining Congress has received very many letters and telegrams showing distress among the producers of chrome, manganese, and other war materials. The evidence proves that the administration officials were directly the cause of much of the investment for the carrying out of the "speeding up" program in most cases. Much of this evidence has been assembled for presentation to the proper committees and authorities of the Government. The officers of the American Mining Congress believe that there has never been a more serious administration blunder than is apparent from the evidence in hand, showing the treatment of the producers by those responsible for their distress. When the war minerals division of the American Mining Congress was organized it was done not in the hysteria of convention excitement, but as a result of many weeks of investigation as to the need of such an organization.

The American Mining Congress believes that it is worth while for America to establish her mines upon a permanent, profitable basis and also that it is necessary to make good the word of the Government given to the men who, during this war have responded instantly, and who, should there be another war blight upon this country, would of necessity be asked to respond to the second call for help.

We assume that our esteemed contemporary will aim to learn the facts and that henceforth that publication will cooperate in securing justice for the industry, rather than to hamper the efforts of those whose claims are already recognized and admitted by the federal agencies responsible for the condition.

LABOR FEDERATION HELPING TO SECURE LEGISLATION

One of the interesting features of the conference of war minerals producers, called by the American Mining Congress, December 16 and 17, was a twenty-minute address by James Lord, President of the Mining Department of the American Federation of Labor. In addressing the employers he drew an effectively dramatic word picture of the reasons for the failure of mining operators to secure results as compared with

the results obtained by the American Federation of Labor.

"Allow me to say," he declared, "in all fairness and in the kindest spirit that the mine owners of America—I speak from experience—have never shown the same solidarity, the same intelligent opinion and the united action that the miners have. For that reason they make themselves the victims of cut-throat competition that is absolutely unnecessary and doesn't do the business any good. I have seen the copper industry on a fine, high plane, where everybody had a chance to make good. I have seen the panic strike them overnight and have seen them go into the market and continue as long as there was a chance to make a sale. I speak from experience.

"I have had many years of experience and I will welcome the day when all the directors of the mines are organized in the same way that the miners are for our own mutual interests and for the dignity of the industry."

In addition to this much-needed advice, Mr. Lord pledged the support of the American Federation of Labor to assist the American Mining Congress in securing proper relief and protection of the industry in its hour of need.

Since the conference, Mr. Lord has met with the executive committee, and to the courtesy of the American Federation of Labor as represented by Mr. Lord is due, to a great degree, some of the hope of the ultimate success of this movement.

THE GRAPHITE SITUATION

American graphite men have reason to feel thoroughly discouraged. Millions of dollars have been invested in the graphite business during the past four years, largely on the urgent encouragement of the United States Government, because of the shortage of foreign graphite resulting from war conditions. From the outset, the graphite men have faced a difficult proposition. They have had to combat freight embargoes, high labor costs, labor trouble, lack of organization in the production, and an uncertain market. Thousands of small investors have been led to take hold of graphite development and these small investors have financed many of the corporations which have proceeded with the development of this industry.

In the words of one prominent graphite man: "Even the Government, which desired us to produce to the maximum, seemed to work against us from every standpoint. Whenever we would assemble a few good workmen, the government shipbuilding yards would send representatives into the districts and call out these men, offering them better wages to go to the shipyards, and now that peace seems in sight, no one seems to be especially interested in the life or death of the industry. Something must be done promptly to save the thousands of men who have invested their money to produce this mineral."

The war minerals division of the American Mining Congress is endeavoring to organize the graphite men, with a reasonable degree of success. It is anticipated that the graphite producers will shortly cooperate with the object of organization on a national basis, and we hope that graphite may develop into a permanent, profit-bearing industry.

ANOTHER STRONG LINK

Another strong link in the chain of the national organization of mining operators was forged by the organization of the California chapter of the American Mining Congress, in San Francisco, January 15 and 16. The membership of this chapter is representative of the best business interests of the state and includes both metal and oil operators. The chapter was organized at the request and upon the initiative of California Metal Producers' Association, a strong and representative body of mining men, which has accomplished excellent work in California during the past few years.

POTASH MEN JOIN WAR MINERALS DIVISION

Among the recent activities of the war minerals division of the American Mining Congress was a resolution inviting the potash producers of America to join

with the division in an effort to place domestic production of the minerals and metals mentioned in the War Minerals Bill upon a permanent and profitable basis. Mr. Victor Barndt, of Tonopah, Nevada, heavily interested not only in metal mining, but in the development of potash, has been elected to membership in the executive committee, and an invitation has been extended by the committee to the Nebraska Potash Producers' Association to elect a member of the executive committee, thus giving the potash producers two representatives on the official roster of the division.

Communications from potash producers are being received and Mr. Barndt, after conference with the California producers, is now on his way East to attend a conference with the officers of the Nebraska Association to discuss the organization of a potash section of the war minerals division. It is expected that the potash section will soon open a permanent office with the American Mining Congress in Washington.

LABOR AND STAGNATION

In an article by Emmet D. Boyle, in this issue, there is found a summary of the demands of the British Labor Party. The labor situation in England, Scotland and Ireland is extremely serious. Strikes are extensive and include key-industries. The labor party there, as here, seems to lose sight of the fact that the wage for labor is dependent upon what labor creates.

A great deal is heard these days about the 6-hour day for labor, excused to an unthinking public with the statement that there is not sufficient work to employ all labor with the 8-hour day. But the 6-hour day to labor means more than that. It means time and a half for overtime after a working day of six hours.

The American Labor Party apparently loses sight of the fact it cannot force capital's operation. If capital cannot make a profit, it can at least remain idle, and idle capital means idle labor.

For instance, the copper industry is facing a situation which is typical of a large number of industries. It has overproduced. There are in this country something over a billion pounds of copper for which there is no market. Copper companies are estimating their total production for the year, at little more than one-third their output during 1918. The cessation of war-time demands for copper, logically, means lower wages, or unemployment of vast numbers of men.

American labor is entitled to the very best wage that industry can afford to pay, and the time has come when capital realizes this fact and is ready and willing to meet the reasonable demands of labor, but capital has not an inexhaustible supply of money which will enable it to carry on industry indefinitely at a loss.

COMING DOWN

In a recent address delivered in New York, George Cushing told this story at his own expense:

"It had just been announced that I had resigned as editor of The Black Diamond to become head of the American Wholesale Coal Association when I met an old friend. His comment was: 'One thing is sure. You will aim high. Maybe you will hit something coming down.'"

One somehow feels that this is applicable to our spokesman now in France. Before leaving, he was credited with ambitions to pool the raw materials of the world, zone the world markets, and create an effective league of nations. At last reports he was clinging grimly to a hope that he could retain the former German colonies under international control—leaving the rest of the world to follow its nose as to commerce—and have the shadow rather than the substance of a league.

This seems, at first, like nothing short of humiliating defeat. It is nothing of the sort. Mr. Wilson is an idealist. He knows what should be done. His is not idealism. It is sublimated common sense.

He knew, therefore, when he went over, that he was not going to bring back all he went after. He knew he would have to give and take—mostly give. But, by clinging to his common sense about international affairs, he at least is making a start. He has the egg of a league

of nations. He has the egg of international control of dispute and danger points. He has won the world away from its chaos to that extent. He aimed high. He has hit something coming down.

We can't subscribe to Mr. Wilson's theory that the world's raw materials should be internationally controlled and distributed. That would mean international control of commodity prices. Certainly we can't subscribe to any such a theory until the economics of the world have been reduced to a common denominator. However, disagreement on a detail, which will be an issue a couple of centuries hence, does not mean disagreement with the basic idea which Mr. Wilson has in mind. He wants the world to act in common to keep the peace. If this does not work to make the world act in common to make war, it is an excellent plan. How it comes out depends wholly on how it is started out.

ROOSEVELTIAN ARITHMETIC

In the naïf autobiography of Theodore Roosevelt there is a characteristic bit of logic. He quotes his father as advising that: "If you are not going to earn money, you must learn not to spend it and get your pleasure in some other way."

To nothing is this advice more applicable and timely than to the abundant growth of associations now growing up in this country. It has been said that the war taught cooperation. This has led to the next logical suggestion which is to form associations. They have sprung up in every conceivable direction to do all sorts of things.

Associations do not earn money—in the commercial sense. They have no counters and no goods with price tags attached. In that sense, they are not earners. Yet they must spend something. There comes in the advice of Mr. Roosevelt, Sr. They must learn how to spend less.

In coal, six national associations and innumerable state and local associations exist. They all gather data. Part of what each association gets is of national value. Yet, when another association—or the government—wants that data, it must be gathered all over again. The coal trade pays the bill for all of this work. It pays, through taxes, for what the government gathers. It pays through membership dues, for what the various associations gather. It is paying too much for its information. This data can be and should be exchanged, at a great saving to the coal trade.

C. H. MACDOWELL.

An authority on nitrates who has become nationally known as a result of his work for the government during the war.

HINES OUTLINES POLICY AS TO RAILROAD FUEL

Walker D. Hines, Director General of Railroads, January 17 authorized the following significant statement:

"The idea seems to have been suggested in some quarters that the Railroad Administration proposes to pursue a policy of so combining and using its purchasing bureau as to break down coal prices, with the result of forcing a reduction in the existing rates of pay for mining labor. This is not the case.

It is the policy of the Railroad Administration to avoid at this time any undue concentration of its purchasing power of coal and to

accomplish this purpose by permitting each road to purchase its own coal. It is further the policy of the Railroad Administration to require that all bids made and accepted shall be based on the existing scale of wages.

"There can be no excuse, therefore, for the making of the claim that coal operators are forced to reduce wages by reason of the Railroad Administration accepting any prices which may hereafter be offered it for coal.

"It is already fully understood that the railroads are not to use the car supply as a means of affecting prices. The policy on the other points above referred to is being clarified by the issuance of the following specific instructions, which are being issued to make this policy clear to the purchasing agents of the roads:

"1. The railroads must not violate existing contracts or cancel contracts where the quality of coal is in accordance with specifications without special consideration by the central advisory purchasing committee of the reasons for cancelling.

"2. The purchasing agent of each individual railroad shall buy the coal for that road under the supervision of the regional purchasing committee of his region. In all respects for bids the following paragraph should be inserted:

" 'It is distinctly understood that all bids are to be based on existing rates of pay for all mine labor, and the price will be subject to readjustment in event existing rates of pay are changed.'

"On contracts awarded or orders placed the following paragraph should be inserted:

" 'It is distinctly understood that the prices named herein are based on existing rates of pay for all mine labor, and the prices will be subject to readjustment in event existing rates of pay are changed.'

"3. For coal which it is necessary to purchase for requirements prior to April 1, 1919, the purchasing agent of each railroad should request that bids be submitted. They shall not undertake to fix the price of the seller's acceptance or make offers therefor, and shall agree only upon a price that shall be contingent upon the pay-for-mine-labor clause in paragraph No. 2. No negotiations for contracts for coal for delivery after April 1, 1919, should be undertaken without first obtaining the approval of the regional purchasing committee."

FUEL ADMINISTRATION STRIKES AT WASTE OF NATURAL GAS

Wasteful usages of natural gas such as burning it all day to save the trouble of turning it off, are to be reported hereafter to the United States Fuel Administration, under an order promulgated January 9.

Existing shortages of natural gas may be alleviated in some measure, Fuel Administration officials said, by the order, which says:

"It shall be deemed wasteful to burn natural gas by means of flambeaux or open lights; to burn natural gas for the purpose of outside lighting during daylight hours; to burn natural gas in inefficient appliances; to burn more natural gas than is reasonably necessary for the purpose which it is intended to serve; or to consume natural gas in any other manner which is not reasonably efficient and economical. Licensees are hereby directed to report to the United States Fuel Administration all cases where consumers persist in the wasteful use of natural gas."

The order was issued because of instances where natural gas was allowed to burn carelessly, even when under meter regulation, as well as for the guidance of so-called "Free" consumers, whose gas costs them nothing, it was stated.

Various attempts were made during the autumn to persuade "Free" consumers to limit themselves to 200,000 cubic feet a year, but these were unofficial as regards the Fuel Administration.

The marketed production of natural gas in the United States amounts to about 800,000,000,000 cubic feet a year, serving about 10 per cent of the population. This product takes the place of over 30,000,000 tons of coal. It is estimated that the wastage of natural gas is equal to the consumption, and that a conspicuous proportion of this loss results from practices which may readily be eradicated.

The natural gas situation has become steadily worse during the last few years. In many parts of the country at the present moment it is critical; in many communities the consequences during the coming winter threatens to be serious. The supply is beginning to run short and only by the greatest vigilance and care can due service be obtained from the quantity available. The losses in connection with use of natural gas are greater relatively than those of any other commodity, and many of these losses are subject to immediate improvement through enforcement of proper regulations.

As an example, it was pointed out that last winter in Louisville, Ky., when the supply of natural gas failed, it was found that 1.9 per cent of the consumers were using 30.7 per cent of the natural gas.

This was due in part to the consumption of natural gas in converted coal furnaces, a wholly improper appliance for burning natural gas according to Fuel Administration engineers. Public Utilities Commissions are now prohibiting the use of natural gas in appliances not primarily constructed for such use.

The so-called free gas feature has been especially troublesome and has resulted in depriving many domestic consumers of an adequate supply of the best fuel available for household use. In an extensive investigation of the amount of gas consumed by domestic consumers in West Virginia having this so-

called free gas service privilege (on account of having gas wells or gas lines on their farms), it was found that the average consumption per free consumer a year was 480,000 cubic feet. This is a waste of at least 350,000 cubic feet for each free consumer a year. There are at least 4,400 free consumers in West Virginia, and at this rate of waste this item alone amounts to 1,540,000,000 cubic feet a year.

The average annual consumption for each domestic natural gas consumer in the United States is 100,000 cubic feet.

Owing to the magnitude of the service renered by natural gas and the significance of the preventable losses taking place in its consumption, the conservation of this product is one of great importance, especially during the coming winter. The efforts of the Fuel Administration toward the conservation of natural gas have already effected a considerable saving translatable in terms of coal.

Commissions on Confiscated Coal

The United States Fuel Administration has announced a ruling that an owner of coal confiscated by a railroad between April 1, and October 10, 1918, is not deprived by any regulation of the Fuel Administration in effect during such period, of any legal right which he may have to recover the purchasing agent's commission which he has paid or become obligated to pay on such confiscated coal; and, that the payment of such commission by a railroad on the settlement for coal confiscated during such period is not prohibited by any such regulation.

This ruling, it was announced, supersedes all interpretations inconsistent therewith previously issued to individual railroads or coal companies.

E. S. BASTIN NEW HEAD OF MINERAL RESOURCES WORK

The organization of the Division of Mineral Resources recently made effective, includes four sections—metals, non-metals other than fuels, mineral fuels, and foreign reserves. Edson S. Bastin is the geologist in charge of the division, and under his direct supervision will come the cooperative relations with state surveys and state mining bureaus, as well as the special liaison function of coordination of the survey's statistical work with the inquiries and needs of other federal organizations. The chief of the division will continue in charge of the western offices and in his general administrative duties will be assisted by F. J. Katz.

H. S. McCaskey, the former chief, is devoting his time to the study of special phases of American mineral resources, for which he has not been able to take time from his administrative work. He will also be available to assist in an advisory capacity, thus giving the division the advantage of his experience.

Mr. McCaskey requested to be relieved of his administrative duties. It is characteristic of his devotion to this branch of public service, that at personal sacrifice, he continued his administrative work through the period of greatest demand upon his division, and mentioned his desire for relief only after the signing of the armistice.

G. F. Loughlin is the geologist in charge of the section of metals; R. W. Stone the geologist in charge of the section of non-metals other than fuels; C. E. Lesher, the geologist in charge of the section of mineral fuels, and J. B. Umpleby, the geologist in charge of the section of foreign reserves.

The expansion of the statistical studies, both domestic and foreign, will continue under the commodity specialists with some added assistants, working under their direction, while the reserve studies will be continued in general on a geographic basis. The geologists of Mr. Umpleby's section will this cooperate closely with the specialists of the other sections, with the view of giving well-rounded unity to the survey's preparation of its annual reports on the mineral resources of the United States.

C. H. CONNER

Who directed the Government's control of platinum

COAL'S POTENTIALITIES

By George H. Cushing

A New York lawyer said the other day that the motive power of the American people is a catch phrase. They will do anything, even to oversubscribing a Liberty Loan when they are short of money, if somebody can devise a catch phrase which will strike their keynote. Taking advantage of this peculiarity, those who want to reform all business invented the catch phrase, "Business will never be the same after the war." Everyone says it today almost as naturally and easily as he says "Good-morning," or "How is your health?" or "It's a fine day, isn't it?"

It is peculiar that everyone believes this to be true. Yet no one has stopped to analyze the situation to determine whether such a revolution can be made possible.

Nevertheless, when each man says that business will never be the same, he means something that his next-door neighbor never thought about. When the worker says it, he means that wages are going to be advanced and that he will have steady work. When the business man says it, he means that his profits are going to be regular and assured. When the consumer says it, he means that he is going to get the same old service but lower prices.

The worker and the business man mean that prices are going up. The consumer means that prices are coming down. There is, therefore, a clash of interests. One of these days there is going to come a "show-down" on this question.

Probably the inventor of the catch phrase meant that business was going to be more social in future. He didn't say as much, but he meant that financial and practical considerations after the war would be given less consideration. That is a pretty good-sized question to reduce to a generality. There may be some industries which have not been sufficiently social to be decent. I say there may have been; I do not know for sure. About the coal business I can speak. It has been entirely too social for its own solveney. It saved money by economies in pennies per ton in a few directions; it paid money out for social considerations in pennies and nickels per ton in many directions. The result, that all of the economies of production through twenty-five years were more than eaten up by the increased social obligations which coal assumed. Therefore, coal went in for sociology more than for profit, and was bankrupt—admittedly insolvent—when the war came. There is no room for any increase, socially, in coal. So, if you want business generally to be more social in the future, you must count coal out. It has gone the limit now.

There is one other thing to consider. The facts with which the business man has to deal have not been changed by the single fact that a war intervened between two normal periods in business. We had before the war and we have now to consider the labor cost, the administrative cost, the selling cost, and the interest on the invested capital to figure into the total cost of a ton of coal. Those were essential parts of cost of doing business before; they are the essential parts of the cost of doing business now. The only way we can change the total cost is to change the cost in one or more of these elements.

Labor says its part of the total cost is not going down.

The banks say that they made no money during the war, and cannot now afford to loan their money for less than formerly they did. In fact, they say that the Government is paying for its money two and one-fourth times what it used to pay. Therefore, money is worth at least twice as much as it used to be.

These charges for labor and capital, therefore, are at an irreducible minimum. The only places where a reduction can be made are in the cost per ton of administration and selling. Whether that is possible or not remains to be seen.

Taking the past as a criterion, it is safe to say that in the coal business any reduction in the administrative or selling expense will be absorbed by the increased social activity of the coal industry; that is, the social side of coal absorbed all the saving effected by the use of improved machinery in mines. This has in twenty-five years amounted to at least one-half the former cost of production. It is safe to say that coal's social enterprises will absorb any small economy which will come through cheaper administrative and selling methods. There is not much hope, therefore, that the ambition of the consumer will be realized and that he will get coal at a less price.

There are some other things to take into account. One of them is the difficulty of overcoming the natural or inherent handicaps of the mining business as a whole. In the first place, the coal business is essentially different from all other businesses, for two reasons:

First, the supply of coal available for all time is now in the ground and within easy reach. That must be so for the very nature of things.

Second, the market for coal is determined by conditions over which the coal producer has no control whatever; the amount of house coal used is determined by the weather; the amount of steam coal used is determined by the general state of business. There is nothing which the operator can do to increase his consumption. He cannot, by ingenuity or by

advertising, create a demand that will increase the use of coal by a single pound. He must take demand as he finds it.

Thus the coal operator must, due to the uncontrolled reserve of coal, meet the competition of all possible comers in the matter of production without the ability to expand his sales beyond a known figure. His potential competition is the whole number of mines which can be opened into a coal deposit which will, apparently, last for a thousand years or more. His possible market is determined by whether the weather in winter is cold or warm and whether business is good or bad. The industry, on this account, has a certain inherent handicap which must always prevent it from ever becoming universally profitable, at least so long as reserves of coal in the ground are beyond control.

That is to say, if all coal mines in existence at any one time should become uniformly profitable, it would simply encourage the opening of new mines in the undeveloped coal area. The new competition would so greatly increase the possible output that the resulting run would engulf both the old and the new mines.

This is indicated by a few facts which will explain the present situation in both the anthracite and bituminous industry.

For anthracite, it is customary to figure that the minimum of capital which any operator can avoid raising if he wants to open a mine is $3.50 per ton of annual output. This covers only his plant and development work. In addition, he has a charge for the coal itself. As a matter of fact, this figure is extremely low, probably a minimum. If the operator has a modern plant and difficult development, a conservative capitalization is $7.50 per ton of annual output. To use the figure, therefore, of $3.50 of capital per ton of annual output is to be extremely conservative.

Last year the average output of the anthracite collieries was about 375,000 tons. This was the average of the very big and little mines in that field. It is not the purpose here to base these estimates on the mine of proved average size. Instead I will make it a little less than the average, even though the facts are the other way. So I am going to hypothecate my estimates on a mine which can produce a thousand tons a day, and, by working three hundred days a year, get out 300,000 tons of coal a year. If such a mine must have a capital of $3.50 per ton of annual output, the investment, exclusive of the cost of land—must amount to $1,050,000.

On this investment the operator must pay:

An interest charge of at least 6 per cent.

He is entitled to a profit of at least 4 per cent.

He has to meet a hazard charge of at least 10 per cent.

This hazard charge is something which only recently has been figured as part of the essential cost of an anthracite operation. It is not based entirely on the actuarial figures; that is, it is not true that one mine in ten becomes a total loss each year, or that there is an even chance that the entire mine will be lost inside of ten years.

It does mean, however, that, taking into account the risk of losing the entire property before the investment has been retired and *adding to it the cost of mine accidents*, the total charge to accident account amounts to 10 per cent.

Therefore, making a total of interest rates, profit and hazard allowance, the operator, to be assured that he is coming out whole, must make an annual charge off equal to 20 per cent of total invested capital. On a mine of the size described this means that the interest, profit and hazard charge must annually be $210,000.

In the bituminous mines it is going to be assumed that the average production is 150,000 tons per year or the equivalent of 500 tons per day. That is above rather than below the average. In fact, the total average for the United States in 1918 was 126,000 tons.

It is customary to say that the bituminous operator must have a capitalization of $. per ton of annual output. This means that the bituminous mine of the size described must have a total capitalization of $150,000 in equipment and development. This leaves out of consideration any cost of the land.

The fixed financial obligations of the bituminous operator are:

6 per cent on interest on investment.
4 per cent for the reasonable profit.
5 per cent for hazard.

This means that the total charge of these three necessary accounts amount to 15 cents per ton of annual output, or 15 per cent on the total investment in equipment and development.

The people of the United States must have both anthracite and bituminous coal. They must, therefore, pay a price for the same which will allow the operator to recover his investment during the life of his property and, having met all proper charges, realize a profit of at least 4 per cent on his investment. It is not a great deal to ask. How it is going to be assured is another very serious question.

For example, it would take an anthracite operator at least thirty years to retire—at any proper charge to the consumer—his investment of a million dollars on a 300,000-ton mine. Therefore, the anthracite operator must have in the ground thirty times the amount of coal he produces annually, or 9,000,000 tons. If each operator has in reserve 9,000,000 tons of coal, and if there are in the ground 5,000,000,000 tons of that coal, that means there is enough coal to support 555 mines of the size indicated.

The last statement on the subject by the United States Geological Survey showed that there were 271 anthracite mines. This means that the present development is 48.8 per cent

of the possible development in the anthracite field.

There is in the ground enough anthracite coal to last another hundred years. And yet there is under development today 48.8 per cent of that coal.

Only one of two things can happen: The existing mines must be relied upon to get out the coal, or the available supply of anthracite must be increased to the serious danger to the right to any anthracite at all of the next generation living in the immediate vicinity of these mines.

It seems, in fact, that the present development of present anthracite mines has gone as far as it is safe. Indeed, the fuel administration acted on the theory that 10 per cent of the existing mines are not necessary. Its bulk line cost was on only 90 per cent of the production. This may account for the fact that most observers of the anthracite situation have said that the development of that field has reached the peak and must be expected to recede rather than increase from now on. This is so in spite of the present inclination of the United States Senate to hold that the development of the anthracite deposit should be more extensive in order that through greater competition—regardless of the waste—the price may be less.

In bituminous coal we have an entirely different situation. There is, according to the United States Geological Survey, 4,188,600,000,000 tons of coal in the ground. Heretofore it has been indicated that the expected production from each bituminous mine can be 150,000 tons per year. If that mine is to have a life of thirty years and hopes in that time to retire its investment, it should have in reserve at least 4,500,000 tons of coal. This means that there is room in the bituminous field for 930,800 bituminous mines of the size indicated.

Instead of there being any such number, 5,000 such mines are more than would be needed to meet in normal times the demand for coal as it stood in 1918. That is, the country consumed in 1918—or bought at least —600,000,000 tons of coal. To have produced that coal, 5,000 mines need but to have produced 120,000 tons per year each. Therefore, 5,000 mines are ample for all possible needs. But if there is room for 930,800 mines, and if we consider that we have 2,000 mines more than are needed—and therefore have 7,000 mines all told—the actual development is only three-fourths of 1 per cent [.0075 per cent] of the potential development of bituminous mines. The figure 7,000 mines is used because it is estimated that these unnecessary 2,000 mines have actually been developed as a result of the high prices during the last two years. Therefore, it is easily possible to increase the present development of bituminous coal by 99¼ per cent and to give all of them a life of thirty years at full production.

This presents a problem for the American people to solve. In reality it divides itself into two parts:

First, the present development of anthracite is 48.8 per cent of the possible development in that field. What is the Government going to do? Will it insist that the other 51.2 per cent shall be developed in order that the people now living may have, through greater competition, a little lower price for coal today. If so, two consequences must follow. One is that all coal operators in the anthracite field must lose money or consent to operate their mines for the benefit only of miners on one side, and the consumer on the other. Anthracite will become, therefore, an eleemosynary industry. The second must be that the present generation, scattered over the country, will get anthracite which it does not need at the expense of the future generation in the East which will need that anthracite.

The Government, therefore, must make choice between allowing the producers of anthracite to conduct a safe and profitable business and sacrificing the future generation and the present economy of the uses of anthracite coal. If the choice of courses is against both the present operators and the future generation, those who have their money invested in anthracite will say that the experiment must be made at government rather than at private expense.

Coming now to bituminous, a question of equal importance arises. Only three-fourths of 1 per cent of the potential development has taken place. Even that is too great. The Government is now insisting that the development of anthracite shall be greater. Is it going to insist, also, that the development of bituminous shall be greater? If so, is it going to take the position that the bituminous coal mines shall be run solely for the convenience of the miner on one side and the consumer on the other, completely ignoring the right of the operator to get for his coal, the full cost, plus the return of his investment and regardless of any profit?

These are pretty serious questions, but they must be faced some time. They may as well be faced now, when the coal question is under serious consideration, as at any other time.

We come now to the question of keeping the reserve coal actually in reserve until the time when it will be needed. It has been shown before that each anthracite mine should have a reserve of at least 9,000,000 tons. If the existing 270 mines should divide the reserve coal among themselves on a pro rata basis, they would each be compelled to control 18,520,000 tons. In other words their investment in coal land would be just twice what it is today. Their interest charge, therefore, would be just twice what it is. That would make their interest charge naturally 12 per cent, as compared with the present 6 per cent. Perhaps that would not be an impossible

burden to carry. However, it would not cut the price of coal.

But when we get into bituminous we get a figure that is absolutely staggering. It has been estimated that each bituminous mine should have 4,500,000 tons of coal in reserve, or enough to last it for thirty years. But if the existing mines—7,000 of them—should control the bituminous coal in the ground, each mine would have to have in round numbers 600,000,000 tons of coal in reserve, or 133 times what it has today. This piles up an interest charge per ton of bituminous production which no conceivable market price on coal can stand. Nevertheless, unless this bituminous coal is held in reserve, the bituminous operator is facing the danger constantly, that when his business becomes profitable he invites its destruction by inviting new competition to develop this reserve coal land.

The Government of the United States must sooner or later take seriously into account this whole question of its policy twoard this reserve land of all coal. It must do so both for the simplification of the anthracite situation and for the solvency of the bituminous situation. It is a question which challenges the attention of the best thought in Congress.

The questions which these series of facts raise are:

Are all possible anthracite mines to be opened at once to the ruin of all existing mines and the dissipation of those reserves held for future generations?

Are the bituminous mines to be compelled always to meet the competition of 133 times the existing number of mines, regardless of the fact that there is no need now for 2,000 of those which exist?

If the operators themselves try to control this situation, they are instantly faced by a series of questions, equally as hard to answer.

For example, are they going to try to buy up this coal land? If they do, they must meet the furious opposition which the Reading Company has encountered for years because it tried to hold in reserve a portion of the anthracite coal deposit.

If not that, are they going to try to agree among themselves either to restrict production to current need, or so to divide the market there will be price cutting? If they do, they will run headlong into the Sherman Anti-Trust Law, which was enacted to prevent just such business conventions.

Shall they try to prevent new mines from entering the field by persuading the raliroads to refuse to make physical connection with such new mines, or by refusing to supply them with cars? If so, they will find themselves violating the Elkin's amendment to the interstate commerce act.

Or are the coal operators going to try to control the situation by buying up the existing plants. If that is attempted, the "coal combination" will find itself facing the experience of the Pittsburgh Coal Company, which at its inception took over the plants in the Pittsburgh district. In two years it found that those plants and their outputs had been duplicated by the reinvestment in other coal mines of the money which had been paid for the old ones.

Taking a look briefly and quickly at the whole situation, it must be apparent that the coal business, in its essential features, has not changed as a result of a period of war being inserted between two periods of peace. The essential facts of coal, which are determining, remain unchanged by the accident of the European war.

I am quite willing to admit that the coal business never should be the same as it was before. I must confess, however, that it cannot change much until the fixed conditions, which the trade confronts, can in some way be changed radically. Still, it is one thing to say that a situation should change; it is quite another thing to change it. Indeed, the problem is of such a character that the immediate and needed reform in the coal business is beyond the jurisdiction of the men who are engaged in the coal industry. That is, the coal problem cannot be solved until public policy touching the coal reserves has been outlined. There must, in my opinion, be a cooperative movement between the trade and the Government, first, to arrive at this public policy, and then to get a working plan under it.

This is a problem which one of these days will have to be solved. We might as well begin discussing it now.

Great Increase in Coal Cars Loaded

A report was received by the Director General from the Car Service Section of the Railroad Administration on the quantity of coal of all kinds loaded by roads for the week ended November 30, 1918, as compared with the same period of 1917, a summary of which follows:

	1918	1917
Total cars bituminous.....	165,071	179,399
Total cars anthracite.....	30,041	37,027
Total cars lignite.....	4,133	4,733
Grand total cars all coal..	199,245	221,159

A summary of reports for the week ended December 7, 1918, as compared with the same period of 1917, based on actual reports from most roads, but with the estimated results of some roads, follows:

	1918	1917
Total cars bituminous.....	185,755	198,121
Total cars anthracite.....	34,450	41,599
Total cars lignite.....	4,368	4,954
Grand total cars all coal..	227,573	244,674

Total increase of 1918, up to and including the week ended December 7, over the same period of 1917, 590,715 cars.

GOLD PRODUCTION SHOWS MARKED DECLINE SINCE 1913

Development of the Transvaal mines for the period 1913 to 1917 accounts for over 40 per cent of the total world output statistically recorded. Between 1900 and 1912 there has been a steady increase in the total annual output, the world production for the latter year being 83 per cent in excess of the output in 1900, the Federal Reserve Board points out.

For 1913, the output of the Transvaal mines for the first time shows a substantial decrease, which is also reflected in the total world production figures. During the first year of the great war the Transvaal gold output shows a further recession, which, together with decreases in the gold production in Australia and in minor countries, accounts for a shrinkage in output below the 1908 total. In 1915 the volume of gold production in South Africa, the United States, and Canada was unusually large, with the result that the total world output for the year (470.5 millions) is the largest ever recorded. During the following year the South African output shows an increased total, though the world production fell off by 16.3 millions, because of reduced operations in the United States, Russia and Australia.

In 1917 practically all the important gold-producing countries report considerable decreases in their output, the total for the year falling more than 20 millions short of the 1916 total. For 1918, shortage of the labor supply, high cost of materials, and the prevalence of the influenza in the principal mining sections are the main reasons given for the large decline in output for the year just ended.

DISTRICT FUEL REPRESENTATIVES ORDERED TO CLOSE OFFICES

The United States Fuel Administration has requested all its district representatives to give all employes of their offices notice of the ending of their work, it has been announced.

These offices will cease their official functions as of February 1, except that between February 1 and 15 statistics and records to and including January 31 will be compiled and prepared for transmission to Washington headquarters, together with such other records as properly belong to the Fuel Administration.

Import Restriction on Iron Ore Lifted

The War Trade Board announced, January 15, that the restriction upon the importation of iron ore has been removed, and that licenses will be issued, when the applications therefor are otherwise in order, for the importation of iron ore from any country.

This supersedes W. T. B. R. 308, issued November 11, 1918, as to low phosphorus iron ore from Spain, Sweden, Norway, and North Africa, and W. T. B. R. 359, issued December 7, 1918, as to calcined spathic iron ore originating in and coming from England.

Restriction on Chrome Ore Removed

The War Trade Board announced, January 15, that the restriction upon the importation of chrome ore or chromite has been removed, and that licenses will now be issued, when the applications therefor are otherwise in order, for the importation of chrome ore or chromite from any country.

Gold production of the world.

[Estimates of the Director of the United States Mint.

	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909
United States	$79,171,000	$78,666,700	$80,000,000	$73,591,700	$80,464,700	$83,180,700	$94,373,900	$90,425,700	$94,580,000	$99,673,400
Canada	27,880,500	24,128,500	21,336,700	18,534,500	16,400,000	14,610,400	12,023,900	8,382,800	9,842,100	9,382,200
Russia	20,145,500	22,850,900	22,533,400	24,032,200	24,803,200	23,291,800	19,498,500	20,684,300	26,062,200	22,231,300
South Africa:										
Transvaal	8,671,900	9,069,800	39,022,700	67,906,100	85,913,900	113,339,100	135,338,000	151,984,100	136,530,800	170,088,600
Rhodesia										
Australasia:										
Western Australia	73,498,900	76,880,200	81,678,800	89,219,100	87,767,300	85,926,500	83,391,400	75,677,700	73,327,300	71,007,900
Other Australia										
British India	9,435,500	9,395,900	9,588,100	11,426,900	11,496,500	11,960,300	12,087,700	10,283,000	10,598,500	10,388,600
All other	35,773,000	41,431,200	42,676,900	40,386,000	40,242,700	41,359,300	46,941,900	42,984,700	60,105,600	60,267,100
Total	254,576,300	262,422,900	296,737,600	325,961,500	347,087,300	377,647,700	401,655,300	413,533,900	443,006,200	454,059,100

	1910	1911	1912	1913	1914	1915	1916	1917	1918[1]
United States	$96,369,100	$96,990,000	$93,451,800	$88,894,400	$94,531,782	$101,055,700	$93,595,300	$83,750,700	$88,493,500
Canada	10,205,800	9,762,100	12,648,800	16,586,900	15,963,004	18,936,971	19,235,000	15,300,000	14,782,000
Russia	35,579,600	32,151,600	22,199,000	26,807,800	28,886,362	26,585,392	22,500,000	18,000,000	15,000,000
South Africa:									
Transvaal	175,189,900	191,536,400	188,293,100	181,883,500	173,559,940	159,033,156	192,182,900	186,509,400	175,000,000
Rhodesia			14,229,900	14,274,700	17,663,686	18,918,334	19,282,200	17,245,000	12,500,000
Australasia:									
Western Australia	65,470,600	60,184,200	26,514,900	27,165,700	25,467,691	24,015,188	21,941,000	20,120,800	21,003,000
Other Australia			27,994,500	25,947,500	22,081,133	25,362,659	18,534,800	15,814,700	
British India	10,718,400	11,054,100	11,055,700	12,178,000	11,378,400	11,522,457	11,205,500	10,756,800	10,000,000
All other	61,826,400	60,352,300	60,751,700	66,498,000	49,806,033	53,988,417	56,751,800	50,188,800	50,000,000
Total	455,359,800	461,930,700	466,139,100	459,941,100	439,078,260	470,468,214	454,176,500	423,880,200	376,778,500

[1] Preliminary estimates of the Federal Reserve Board.

CALIFORNIA CHAPTER OF THE AMERICAN MINING CONGRESS, FORMALLY ORGANIZED

On January 15 and 16, the metal and oil producers of California met at the Palace Hotel, San Francisco, to organize the California Chapter of the American Mining Congress. There were present a total of 160 of the leading mining men of the state. Albert Burch, President of the California Metal Producers Association, presided, and G. M. Swindell, acted as secretary.

H. Foster Bain, Assistant Director of the U. S. Bureau of Mines, gave an interesting talk on the history of The American Mining Congress, reviewing the early work of the organization, which resulted in the creation of the Bureau of Mines, with Dr. J. H. Holmes, as Director, and advocated a concentrated effort to secure a Department of Mines and Mining, with representation in the President's Cabinet.

Bulkeley Wells, President of The American Mining Congress, was present, and in his address reviewed the more recent activities of the organization: The War Minerals Relief Bill, to give aid to chrome, manganese, pyrite, and other products, which promises to be of material benefit to the producers of war minerals; the work done by the Revenue Legislation Committee, which succeeded in securing in the Senate the adoption of six out of eight of their recommendations; the effort to secure for gold producers some relief from present conditions, which resulted in the appointment by the Treasury Department of a committee to study the situation and make recommendations. Mr. Wells is a memebr of that committee. Regarding the labor situation, Mr. Wells believes it folly to reduce wages, until the cost of living is changed. He urged for the Congress the hearty support of the mining men of the country, and asked that the officers be backed vigorously and promptly in the work they are doing.

Albert Burch, the presiding officer, told the meeting that he had known little about The American Mining Congress until a year ago, when, upon being in Washington and availing himself of its services, he found it invaluable in securing results. He called particular attention to the activities of the organization in securing $1.00 per ounce for silver.

J. K. Lynch, Governor of the Federal Reserve Bank, stated that civilization and mining have gone hand in hand, and that mining is necessary to our high standard of civilization. He pointed out that the world is dependent on iron for progress; electricity is dependent on copper. From a bankers' standpoint, mining may be divided into four stages: prospecting, exploration, development, and production. When a mine is ready for production, it may be considered a manufacturing business, and until this stage is reached, the banker is not interested. Mr. Lynch stated that the gold reserve in Federal Reserve Banks on January 3, 1919, was $2,092,000,000—about 33 per cent of the gold in the country. The ratio of gold to credit in this country on June 30, 1918, was 1 : 5; at the end of the next fiscal year it is estimated at 1 : 2½. Only for the Federal Reserve Bank, the country would have been bankrupt during the war.

Frank B. Anderson, President of the Bank of California, at San Francisco, gave an intensely interesting address, at the luncheon on January 16, on "The Attitude of Bankers Toward Mining Investments."

T. A. O'Donnell, formerly assistant to the oil director of the U. S. Fuel Administration, in charg of production, told of the accomplishments of the American Oil Industry during the war. Mr. O'Donnell believes that every phase of the conflict was dependent upon petroleum production, which came in greater part from the United States. He pointed out that the Government here asked oil producers to cooperate, rather than forcing them, with the result that when oil producers, where asked to produce more oil, they responded by spending large sums of money in equipment and development, much of which is now useless. The oil output in 1918 was 3 per cent larger than in 1917.

T. A. Rickard, editor of the Mining and Scientific Press, advocated a publicity campaign for the work of The American Mining Congress, calling attention to the tremendous good which results from giving publicity to the operations of mining companies. Mr. Rickard believes that the war has brought home forcefully to the American people the great importance of the mining industry.

The meeting particularly advocated a campaign for a Department of Mines and Mining, and Judge John F. Davis discussed the necessity for this action in a thoroughly capable manner. D. M. Folsom discussed the fundamental relationship and dependencies of industry upon fuel, and asserted that peace has not altered this dependency.

Altogether it was a most satisfactory meeting, and the Chapter starts with the wholehearted backing of the most prominent mining men of California, and promises to be an unqualified success.

The following were elected as directors, and a meeting will be held, February 13, at which a governor, vice-governors, and secretary will be elected:

Directors for one year term: Andrew Carrigan, L. D. Gordon, M. H. Whittier, K. R. Kingsbury, and Clifford G. Dennis.

Directors for two-year term: Albert Burch, George W. Metcalfe, W. J. Loring, E. L. Doheny, and John Barneson.

Directors for three year term: F. W. Bradley, T. A. Rickard, J. H. Mackenzie, L. P. St. Clair and H. R. Gallagher.

Mr. Rickard asked to be relieved of the appointment, believing that he can render more useful service as a detached critic.

Mr. Rickard has written an editorial, which appears in the January 25 issue of Mining and Scientific Press, "The American Mining Congress," which so thoroughly explains the spirit of the meeting that we quote therefrom as follows:

"During the past week a California Chapter of the American Mining Congress has been organzed under the auspices of the California Metal Producers' Association of San Francisco and the Chamber of Mines and Oil of Los Angeles. The meetings on January 15 and 16 in San Francisco proved an unqualified success, as was assured from the start because the affair had the wholehearted backing of the best men in our mining community. A report of the proceedings appears on page 128 of this issue. In due course we hope to publish the text of the principal addresses, which dealt with subjects of national interest. Mr. Albert Burch, the chairman of the Metal Producers Association, presides over the sessions with conspicuous success, due in no small degree to the esteem with which he is held by the fraternity of Western mining men. The Congress in recent years has been fortunate in its presidents; Mr. Walter Douglas has been succeeded by Mr. Bulkeley Wells, who was present and added largely to the interest of the occasion by the appropriately prominent part he took in the discussions. Mr. J. F. Callbreath, the secretary and chief organizer of the Congress, and to whom the success of its political activities at Washington are largely due, gave a most informant history of the organization, and, of course, took a guiding part in the business meetings. Our friends in the South were worthily represented by Messrs. G. M. Swindell, who acted as local secretary, and by Mr. T. A. O'Donnell, whose speech on the part that petroleum played in the war, was the chief feature of the dinner on Wednesday evening. One consequence of the convention was the new start given to agitation in favor of creating a Federal Department of Mines with a Secretary in the Cabinet. The campaign for this purpose was launched in an eloquent address by Mr. John F. Davis, a distinguished lawyer not without experience of mining. We hope to publish this address at an early date. Another important utterance was that of Mr. Frank B. Anderson, the President of the Bank of California, who explained the attitude of bankers toward mining enterprise in a weighty speech that was heard with eager attention and that our readers will find stimulating to serious thought. This brief summary of the convention will indicate to those not present that the proceedings were well organized, and unusually informing. One fact was unmistakable, namely, that this gathering of mine operators and mining engineers was thoroughly tired of being regulated, controlled, and disciplined by the halo-hatted gentlemen at Washington. While willing to submit to the unpleasantness of war-time, they were looking forward to their accustomed freedom of initiative. Every expression of protest against unnecessary regulation after the was, elicited prompt approval, and any reference to the necessity for giving the customary scope to individual effort evoked loud applause. This fact is one that sagacious politicians—not to mention statesmen—will not disregard, for we believe it to be no mere local manifestation of feeling. In this as in other matters, the mining community in the nation. The experience of the war period has shown the mining community that it needs to be protected at Washington against ill-digested legislation, whether on the score of taxes and embargoes, or of regulations devised sometimes by persons in control of the market. The committees sent to the national capital to protest against sundry eccentricities of legislation have been assisted by Mr. Callbreath and his colleagues in a manner for which they have reason to feel grateful. Until recently, the Mining Congress has been supported mainly by the small operators, but now the large companies have decided to cooperate. For instance, in Arizona, the copper companies have agreed to contribute 10 cents per $1,000 of annual production, the contribution being limited to a maximum of $6,000 and a minimum of $60 per company. This financial assistance is given without representation on the board of management, so that there is no danger of the big interests exercising undue control. The vote is still restricted to individual membership. It is now proposed to enlarge the activities of the Mining Congress, by organizing eight statistical and technical divisions, but we trust that the mistake of duplication already being made by the Geological Survey and the Bureau of Mines will not be imitated. If the Mining Congress should fail, it will be by reaching out unduly and trespassing on the preserves of the official agencies. We believe that the Mining Congress has a useful function to perform on behalf of the mining industry,, and we trust that it will not endanger its effectiveness by undertaking to do too much."

CAPTAIN STEIDLE LOSES EYE WHILE LEADING MEN IN BATTLE

The many friends of Capt. Edward Steidle, formerly in charge of one of the mine-rescue cars of the Bureau of Mines, will regret to learn that during the bitter fighting preceding the signing of the armistice, Steidle, who had just recovered from a previous injury, was again seriously injured while leading his company in attack.

In a letter written at the base hospital in Paris to the chief mining engineer of the bureau, Captain Steidle says:

"November 1, while attached with my company to an attacking unit of marines, I received a second injury. I am progressing as well as can be expected, but have suffered the loss of my right eye. With proper medical attention and a refit of glasses, I expect to be in good working condition again in due course."

After stating that he has served on the line 75 per cent of the time he has been in France, he adds:

"It might be of interest to state that my major sent a dispatch rider to Paris, after my arrival here, inquiring whether I could return again to the regiment, stating that I was slated for a majority, and could accompany troops to Germany—my most ardent desire."

Federal Electric Sirens Approved by Underwriters Laboratories

Under date of October 11, 1918, the Underwriters Laboratories conferred approval upon all types of Federal Electric Sirens. This approval, of course, refers to the device itself and forms the strongest kind of evidence that the Federal Electric Siren is properly designed and carefully built, so that it takes its place among standard types of electrical apparatus.

PETROLEUM PRODUCTION IN 1918 WAS 345,500,000 BARRELS

The quantity of crude petroleum marketed from oil wells and field storage tanks in the United States in 1918 reached the record-breaking total of 345,500,000 barrels, as shown by preliminary estimates made by John D. Northrop, of the United States Geological Survey, Department of the Interior. This output is an apparent gain of 3 per cent over the former high record, 335,315,601 barrels, established in 1917. The output is apportioned among the major fields as follows:

Field.	1917.	1918.
Appalachian.....	24,932,205	25,300,000
Lima-Indiana.....	3,670,293	3,100,000
Illinois.....	15,776,860	13,300,000
Oklahoma-Kansas....	155,043,596	139,600,000
Cent. & No. Texas....	10,900,646	15,600,000
North Louisiana.....	8,561,963	13,000,000
Gulf Coast.....	26,087,587	21,700,000
Rocky Mountain.....	9,199,310	12,600,000
California.....	93,877,549	101,300,000
Alaska and Michigan.	10,300	.....
	335,315,601	345,500,000

The output in 1918 includes no less than 6,500,000 barrels of crude oil removed from field storage, but excludes drafts aggregating 20,500,000 additional barrels from stocks of pipe-line companies. The surface reserve of crude oil held by oil producers and pipe-line companies in the United States at the end of 1918 is estimated at 123,000,000 barrels, compared with 150,000,000 barrels at the end of 1917. These figures show that the demand for domestic petroleum in 1918 amounted to about 366,000,000 barrels. The exports of crude oil, most of it to Canada and to northwestern Mexico, aggregated about 5,500,000 barrels, leaving a total of 360,500,000 barrels available to supply domestic needs. This quantity was insufficient, however, and about 36,500,000 barrels was imported, nearly all of it from Mexico, to meet the domestic requirements, which amounted in all to about 397,000,000 barrels.

The increase in output was made in response to a steadily growing demand for petroleum, expressed in advancing prices for crude oil, which were stabilized, with governmental approval, at record levels during the closing months of the year. As indicated in the foregoing table, the most pronounced response to the stimulus of the war-time demand for petroleum was in the central and north Texas, north Louisiana, Rocky Mountain, and California fields, but the gain credited to the old Appalachian field, though moderate, is significant. The increase in the output of this field was due in large measure to successful drilling in Kentucky, particularly in Estill, Lee, Lincoln, Breathitt, and Allen counties.

In California the principal source of new production was the Montebello field, discovered in 1917 in Los Angeles county, which, with the Casmalia district, in Santa Barbara county, and with the older districts in both the San Joaquin Valley and the coastal-southern divisions, apparently succeeded in establishing a new record for oil production in California, exceeding 100,000,000 barrels.

The gain in the Rocky Mountain field is credited to Wyoming and is ascribed in part to the Big Muddy field, in the western part of Converse county, in part to the drilling a few new wells of large capacity in the heart of the Salt Creek field, Natrona county, and in part to the results of providing marketing facilities for the Warm Springs field, Hot Springs county, and for the Pilot Butte-Maverick Springs district, in Fremont county. New and potentially productive sources of oil were proved in Wyoming in 1918, on Buck Creek, in Niobrara county, and on Rock River in the eastern part of Carbon county.

Credit for the gain in the north Louisiana field belongs almost wholly to the Pine Island district, in Caddo Parish, opened near the end of 1917, and extensively and successfully developed during 1918. Near the end of 1918 a new oil pool of apparent great promise, termed the Bull Bayou district, was opened in the southeastern part of De Soto Parish, about 3 miles south of the Crichton field.

Momentous developments that affected the future supply of high-grade petroleum in the United States took place in 1918 in the central and north Texas field, after petroleum had been discovered in considerable quantities near Ranger, Eastland county; near Caddo, in Stephens county; near Brownwood, in Brown county, and near Burkett, in Coleman county, in 1917. About sixty oil wells were completed during 1918, and at the end of that year the new field was credited with a potential capacity of 50,000 barrels of oil a day, though its actual capacity, limited by pipe-line facilities, was only about 18,000 barrels a day. The campaign of wildcat drilling, radiating from the centers named, extended over more than forty counties in northern Texas before the end of 1918, and will doubtless result in the opening of other pools of high-grade oil in 1919.

The decrease charged to the Oklahoma-Kansas field is accounted for by the failure of wildcat drilling to discover new fields comparable with the declining Cushing, Healdton, Eldorado, and Augusta fields. In Kansas new territory was opened in Butler county, north of the Eldorado field, and in Greenwood county, east of that field. In Oklahoma a productive pool, known as the Youngstown pool was developed in Okmulgee county, and strictly new oil territory was opened in Stephens county, several miles west of the Healdton district.

The diminution in the output of the Gulf field is due to the decline in the output of the Goose Creek pool, Harris county, Texas, and to the normal decline in that of the other dominant pools in that field. New pools of promise were discovered in the Gulf field in

1918 at West Columbia, Brazoria county, Tex., and at Big Hill, Matagorda county, Tex., though neither added materially to production in that year.

ITALY SUFFERS MORE FROM FUEL SHORTAGE THAN OTHER NATIONS

Italy, whose population as a whole was without coal for heating, and in large part without gas for cooking, for many months of the war period, was the worst sufferer from fuel shortage among the allied nations, according to the report of the commission sent to Europe by United States Fuel Administrator H. A. Garfield.

Switzerland, which now faces a severe shortage, managed throughout the conflict to obtain a considerable supply of coal from Germany, although under an agreement forced on her "upon disadvantageous terms," the report says. France is continuing to furnish to Switzerland the tonnage Germany had allotted from Alsatian fields. Germany was Switzerland's chief source of supply before the war.

Belgium, the commission found, should be able to produce immediately more coal than needed for its own consumption, since its industries were so thoroughly ruined during German occupation.

Representatives of the Italian Government, the commission reports, urge an annual national supply of 12,000,000 tons to meet actual requirements, drawing attention to the fact that "while the people may suffer privation without protest in war time," with the coming of peace a refusal to supply fuel "may give rise to serious disturbances."

The whole of this quantity would of necessity be imported, since Italy's only domestic fuel is a very poor grade of lignite. Under the spur of war needs, however, the production of this lignite was forced up to 2,500,000 tons in 1918, as against 700,000 tons before the war.

Italy was receiving but 7,000,000 tons of coal during the last years of the war, the report says, as against minimum necessities of 10,000,000.

During the first three months of 1917 a total of 120 out of 128 gas plants in Italy were shut down, leaving only those in the larger cities in operation, the commission found. From April 1, 1917, to November 1, 1918, consumers were allowed gas during an aggregate of only four hours a day for cooking purposes. During 1917 and a part of 1918 textile industries, paper mills, glass factories, and other non-war industries were cut down to less than 10 per cent of their normal requirements.

The report expresses some doubt as to whether Great Britain will be able, "in view of conditions at home and the heavy demand at home and elsewhere," to resume the annual exports of some 8,500,000 tons to Italy maintained in pre-war years.

Under date of November 18, 1918, and while the Fuel Administration commission was in Rome, the government established a monopoly over coal and several other commodities, including petroleum, sugar, coffee and tea. It was said that the necessary approval by the Chamber of Deputies was anticipated. The creation of this monopoly, the commission points out, will "greatly change the conditions surrounding any prospective coal trade of the United States with Italy, as well as existing trades in such commodities as petroleum."

Discussing exports from the United States to Italy, the report says that, "due in part to war conditions and in part to a coal strike in Great Britain, they rose from 82,000 tons in 1913 to 287,000 in 1914, to 1,714,000 in 1915, and to 1,040,000 tons in 1916." These figures, the report states, are from Italian governmental sources, and are smaller than those of United States records.

After 1916 imports from the United States slumped until, for the first nine months of 1918, they amounted to but 9,700 tons. This was due, says the report, to prohibitive freight rates and shortage of ships, adding:

"The subject of importation of American coal is here, as elsewhere in Europe, almost entirely a question of shipping and freight rates."

Permits Required for Certain Smokeless Shipments

To correct a slight misconception of its order of January 16 regarding the removal of restrictions on shipments of bituminous coal and smokeless coal by way of the docks on Lake Michigan and Lake Superior, the United States Fuel Administration pointed out that this order still keeps in effect a provision that "low volatile smokeless coal shall not be sold or shipped from docks on Lake Michigan and Lake Superior for use by domestic consumers unless a permit for such sale or shipment shall first have been obtained from the district representative of the United States Fuel Administration, in charge of said docks."

The order also declared valid all permits heretofore or hereafter obtained from the district representative in charge of said docks, under the proviso of the order of January 2, 1919, although granted without the approval of the Federal Fuel Administrator.

Restriction on Copper Ore Lifted

The War Trade Board announced, January 15, that the restriction upon the importation of copper ore and copper concentrates (W. T. B. R. 428, issued December 19, 1918) has been removed, and that licenses will now be issued, when the applications therefor are otherwise in order, for the importation, from any country, of copper ore and copper concentrates, regardless of the copper content thereof.

COLORADO CHAPTER HOLDS ITS ANNUAL MEETING

With an attendance far exceeding any meeting of mining men in Colorado for some time, the annual convention of the Colorado Chapter of The American Mining Congress was notable this year for the fine spirit of fellowship evinced and the practical work accomplished.

The convention lasted three days, beginning January 2, and from every mining county in Colorado operators, mine managers and mining engineers assembled in response to the call of the Colorado Chapter and the Colorado Metal Mining Association. The meeting marked the close of the first year of work of the chapter, organized by Western Secretary Burns in November, 1917, and the report of Secretary Tomblin, in behalf of the board of directors, showed a year of accomplishment and expansion.

The resignation as governor of the Colorado Chapter of Bulkeley Wells, now President of The American Mining Congress, was made public, and Robert S. Ellison, vice-governor of the chapter, representing the oil industry, was elected governor to succeed Mr. Wells. Mr. Ellison, formerly of Colorado Springs and closely allied with both metal and oil producers, is one of the most popular and active of the younger business men of the state.

J. F. Welborn, president of the Colorado Fuel and Iron Company, and Samuel D. Nicholson, president of the Western Mining Company, of Leadville, were elected vice-governors. M. B. Tomblin, secretary, was elected to the joint secretaryship of the Colorado Chapter and the Colorado Metal Mining Association.

President Wells and Secretary Callbreath, of the Congress, were present and participated in the program, speaking on the gold situation, national legislation, and the plans for enlarged work of The American Mining Congress.

The Colorado meeting was a real convention filled with live discussions and laying the ground work for a big year ahead of the chapter. Secretary Tomblin had assembled many of the state's best speakers, and serious discussions, some of them a bit lively, were had of such subjects as freight rates for ores and supplies, blue-sky laws and business promotion, legislation affecting the Colorado mining industry, state compensation insurance, and so forth.

A subject covered by the program was "County Organization," a phase of chapter work often neglected by the state organizations, but found to be quite successful in Colorado. W. B. Lewis, president of the Boulder County Mining Association, a live organization of 500 members, told the story of how the association does its work and the fine effect, not alone on the industrial and labor conditions, but the social conditions of the county. It was a story of great human interest, showing what possibilities are in store for the chapters which adopt and will follow up the plans worked out in Colorado.

In his address to the delegates Secretary Callbreath stated that he believed Congress might be induced to cooperate in looking forward to the development of the oil shale industry through an investigation of its by-products. He believed there might be a similar development of by-products from coal. The convention afterward adopted resolutions urging appropriations to be expended by the Bureau of Mines for these investigations.

Important resolutions covering both national and state legislation were adopted.

Editorially, the Daily Mail Record, of Denver, congratulates the officers of the chapter on the fact that all mining interests of the state, from the largest operators to the least important, are now represented in the Colorado Chapter.

FRENCH IN NEED OF IRON AND STEEL FROM AMERICA

Newly opened channels for the American iron and steel industry are indicated by advices from the French Ministry of reconstruction.

The War Trade Board has received notification that the French Ministry of Reconstruction, Bureau of Raw Materials, will consider favorably applications to import quantities of iron and steel. In o[illegible]ming [illegible] import licenses it was stated that American firms or their French agencies will be given the same consideration as French firms.

Fuel Saving in Clay Products

Statistics of results obtained in fuel conservation by 4,000 clay products companies representing practically the entire industry have now been compiled by states and show an actual total fuel saving in this industry alone of 1,846,996 net tons during the first six months of 1918.

The curtailments of fuel in the various branches of these industries were the result of voluntary agreement on the part of the manufacturers after conference with the U. S. Fuel Administration.

Historian for Fuel Administration

George E. Howes has been appointed Historian of the United States Fuel Administration.

By the terms of the order authorizing his appointment, "all matters pertaining to the property and records of the administration are under his control."

Mr. Howes has been, since February last, a member of Dr. Garfield's personal staff, acting as assistant executive secretary to the United States Fuel Administration.

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COURT UPHOLDS RATIONING OF NATURAL GAS AT LOUISVILLE

The first step that has been taken to restrain in court the efforts of the United States Fuel Administration toward equitable distribution and conservation of the waning supply of natural gas has met with defeat under a decision rendered by Judge Samuel B. Kirby in the Jefferson Circuit Court at Louisville, Ky.

This court overruled the motions of the city of Louisville and the Rev. J. M. Maxon for a temporary restraining order to enjoin the Louisville Gas and Electric Company from putting into effect an order of the Fuel Administration rationing the supply of natural gas to consumers in Louisville.

The order provides that each consumer shall be permitted to burn not to exceed 1,000 cubic feet per day unless permits for additional amounts needed are obtained from the federal fuel administrator for Kentucky. It also provides that "whenever the supply of natural gas is in excess of the quantity required to fill the demands therefor within the limit hereby imposed the companies may make a pro rata delivery of such excess to their consumers."

During the severe weather of last winter there was a demand considerably in excess of the supply which flowed through the main leading from the West Virginia fields to Louisville. During the summer the city attorney of Louisville and others requested the Fuel Administration to take action which would prevent suffering from shortage of supply in case of another severe winter. The order to accomplish this result was issued after a conference held at the offices of the Fuel Administration in Washington on October 10 and 11.

This conference was attended by more than a score of leading officials interested, prominent citizens of Louisville, and well-known experts in natural gas affairs.

It was shown that 8 per cent of the Louisville consumers use 50 per cent of the entire quantity of gas consumed in the city. For example, in the month of January, 1918, one residence used over 500,000 cubic feet, another over 400,000 cubic feet, several others over 300,000, and seventy-eight residences from 100,000 to 200,000 cubic feet each. Ninety-six and one-half per cent of the consumers used an average of less than 1,000 cubic feet a day each, or about 30,000 cubic feet a month. The number of consumers using more than an average of 1 000 cubic feet a day was only about 1,500.

November Petroleum Analysis

The slight increase in the quantity of petroleum run from wells and producers' field storage tanks to market in November, 1918, from the Central and North Texas and Rocky Mountain fields failed to compensate for the loss, in part seasonal, chargeable in that month to the other fields enumerated, and the result was a net loss of 4.8 per cent compared with October, 1918, and of 1.3 per cent compared with November, 1917.

The quantity of crude oil marketed in November, 1918, failed to keep pace with consumption, which was greater by 2.3 per cent than in October, 1918, and by 5.6 per cent than in November, 1917.

Although moderate additions were made to stocks of petroleum in November, 1918, in the Central and North Texas, North Louisiana, and Rocky Mountain fields, the total surface reserve of crude oil in the United States, exclusive of California, was reduced during that month by about 3,500,000 barrels. On November 30, 1918, stocks of petroleum in the fields to which this summary relates had been depleted to the extent of about 25,000,000 barrels compared with the quantity in storage at the end of November, 1917.

The foregoing was prepared by J. D. Northrop, of the U. S. Geological Survey.

THE PROBLEM OF PROBLEMS; THE FUTURE OF LABOR AND CAPITAL

By Emmet D. Boyle, *Governor of Nevada*

In the multiplicity of problems confronting the governments of the world, the nation and the states today, it may be said that the problem of establishing proper social and economic relationship between employer and employee is at once the most urgent and the most difficult.

GOV. EMMET D. BOYLE.

There is no occasion to refer, except in passing, to the history of industrial relations in America. Capital long since combined to correct the proven ills of unrestricted, cutthroat competition. When these combinations tended to be viciously monopolistic in character the pressure of public sentiment brought into play restrictive laws, many of them overreaching in their effect, but all possessed of the saving grace of protection to the American ideal of individual incentive. With combinations in industry came combinations of wage-earners, and the faulty vision of ig business which invited rebuke in the form of restrictive legislation, has been matched by the faulty vision of workingmen who, in the pioneer days of the labor movement, sought to obtain their ends by unjustifiable means; who followed false prophets, and who injected unsound principles into their negotiations, conducted only too often by tactless and sometimes venal leaders.

Today industry is organized in part. While it can hardly yet be fully absolved from the charge of improper interference here and there with orderly processes of government and trade, we must admit, and cheerfully so, that intelligence, which is another name for morality, has superseded the sandbag which, within the memory of living men, was used by "Business" so ruthlessly on the individual and the government alike. With this change in heart has come a relaxation of public pressure, and a consequent letting down in general public regulation.

Likewise, labor is organized in part. The American Federatoin of Labor has, on the theory of the survival of the fittest, become the spokesman of intelligent organized labor in America, and has injected a sound philosophy in the principles of the trades crafts to which it speaks.

The Railroad Brotherhoods, comprising the great majority of the train service operatives throughout the United States, have earned recognition by the public because of the intelligence of their direction. Combined in these groups are, perhaps, two and one-half million of the workers in America, all of whom are committed to a stable policy in contractual relations with employers. Conspicuously, partisan entanglements are avoided by these great organizations. They are attached to no party and inoculated with the virus of no false political creed. On the record, I make the assertion that the American Federation of Labor has stood consistently as the most practical and powerful single influence in the western hemisphere, tending to divert the vision of workingmen and women from the alluring prospects supplied in socialistic theory to the more practical aspect of social life to be found in our true national ideals.

Passing the question of nationalization of the agencies of control for the moment, I think that I am justified in saying that, in general, organization tendencies in all industrial groups were proceeding in the right direction in the period which preceded the war, in the sense that the elements of decency and regard for the rights of others were appearing in more pronounced degree both in capital and in labor combines.

But the cessation of hostilities has set up potential elements of disruption at home. Overnight, following the signing of the armistice, the business of war—the nation's one paramount industry for nearly two years—ceased as far as utility was concerned.

Statisticians of the Department of Labor estimate that there may be as many as five million of these war workers released, and it is obvious that they will be released in the near future.

Among the great masses of the American

people, the Utopian thought of Russia, now struggling for practical expression there in a typical atmosphere of ignorant and brutal revolution, will find no welcome. Yet radical groups which have been troublesome in America are ready to seize upon anything to stimulate their activities among the discontented masses, and experience has proven that they succeed measurably when conditions are such as those which we have at this time reasonable cause to fear.

The Spartacus group in Germany represents the Bolshevic element there. France has in her masses a powerful socialist group. The plausible and alluring arguments of this ultra-radical European political faction will touch only relatively few of our people, yet it cannot be gainsaid that this foreign political disease is contagious.

Coming nearer home, let us consider the attitude of the working masses of England. There, the British Labor Party—representing a combination which might be likened to that of the American Federation of Labor and all other organized labor groups with the political socialists in our own country—is conceded by students of the situation a representation in parliament of as many as one hundred seats in the total of six hundred and seventy in the House of Commons. Its demands include a universal minimum wage; insurance against unemployment; democratic control of industrial methods, through participation by the workers in such control "on the basis of common ownership and the means of production" and "equitable sharing of proceeds among all who participate in any capacity in production; state ownership of lands; the nationalization of railways, mines and electric power, canals, harbors, roads and telegraphs, and expropriation of industrial insurance companies; government control of all industries bearing directly on the cost of living; the practical exemption [illegible] small incomes, and for the taxation of large incomes on a plan which does not stop short of a capital levy to care for the war debts of the nation."

The program of American spokesmen of labor appear very modest [illegible] pared with these demands of our British brothers. The American Federation of Labor proposes now only the extension of the eight-hour day principle; the right of workers to bargain collectively; the intensive organization of the unskilled workers, and the fundamentally sound proposition that an extension of opportunity for intercourse and exchange of viewpoints between workers and managers be provided forthwith. The Department of Labor emphasizes the importance and urgency of the last-mentioned proposal and does so, I think, with clear vision of industrial needs and with the constructive statesmanship which follows such vision.

In the confusion following the cessation of hostilities, with its attendant uncertainties as to the immediate future, came, in advance of any diagnosis, the usual avalanche of prescriptions of economic nostrums aimed to cure our potential industrial ills. It became apparent that emergency trade bolsters and restrictions favorably affecting the prices of American products and manufactures would have to be withdrawn. Seeing no immediate and practical plan to force down prices on commodities and manufactures other than those produced by themselves, employer groups throughout the country began a noisy clamor for the immediate reduction of wages as a precedent to the downward course of prices generally. It was alleged that the wage factor in American production constituted fully 70 per cent of the value represented in the salable product, and the whole structure of excessive prices was upheld by immoderate compensation exacted by workers over the war period. Mr. Gompers, president of the American Federation of Labor, joined by the Department of Labor and individual wage spokesmen, replied in no uncertain terms that labor would resist any attempt to interfere with wage scales and hours, and these declamations brought forth an eager and spontaneous condemnation from extremists on the other side of the question, together with an outspoken presentation of the theory that a "show-down" with labor was imminent." In certain financial groups the argument was advanced shamelessly—by lesser lights in the world of business and industry, it must be confessed—that deliberate and organized curtailment of production would effectively starve the insolence out of the new arrogant wage-earner. Happily, this inhuman, not to say insane, policy found no favor in the eyes of the real leaders in American industry. Particularly refreshing is the prophecy of Mr. Charles Schwab that labor is inevitably destined to share directly in the control of all industries; that of July Gary, of the United States Steel Corporation, that his company contemplates no reduction in wages, and the expressions of many others that the downward deformation of the wage curve must be preceded by readjustments in the other factors of production.

In this connection it is interesting to note just how labor (treated for the purpose of immediate argument as a commodity) did capitalize its opportunity during the war.

It may smack of the academic at this time to attempt to analyze the causes underlying the upward trend of prices since the inception of hostilities in Europe. It is necessary, however, to say that the insatiable demand for material and men during the past two years does not account wholly for the prices in all commodities now prevailing. In the case of most materials the intervention of regulating machinery prevented the rise of prices to even higher levels than those actually attained. It is interesting to note that steel, coal, wheat, cotton, and the bulk of the big raw product tonnage rose to figures averaging more than

120 per cent advance over pre-war prices. Elaborate data collected by the Bureau of the Census, by the Department of Labor, and by private statistical bureaus proved that the cost of living, so called, reached an average over the whole country of more than 60 per cent increase over normal. These increases would have been greater in the absence of control agencies inaugurated by the Government. Nor was, perhaps, the law of supply and demand alone at work in this business.

Unquestionably, the wage-earner in 1918 found himself possessed of an unusual sense of security in his employment. From the pre-war conditions, when from 1,500,000 to 2,000,000 workers were throughout every year unemployed, and when greater numbers suffered the effects of broken and casual employment because there were not jobs sufficient to employ all, the country went to a condition in which men were everywhere in demand. No devices were installed to prevent the operation of the same processes of control on the labor element in production as were applied in other cases. The law of supply and demand might have had full swing had labor pressed to the full its new-found advantage.

As a device to enforce compliance with the terms of "hours-of-labor" agreements and laws, organized wage-earners have secured generally the adoption of the "time and a half for overtime and double time for Sunday work" principle in the larger industries. When shipbuilding began on a colossal scale, together with a production of armament and munitions, the Government found itself unable initially to enter into contracts with employers because of the uncertainty of the markets on any basis other than the so-called "cost-plus" plan. Great drafts were made on the labor market everywhere. Tremendous competition for labor sprung up between individual contractors. It was no concern to them, under a cost-plus contract, what sums of money workmen were paid for their services, and recruiting by the agents of one contractor in the labor ranks of another became common, serving to bid up certain wage scales to inordinate figures. In part, this was corrected by the activities of the War Labor Board, but conspicuous instances of exceptional pay secured by workmen under these conditions over the war-time period are uppermost in the minds of the public and tend to blind us to the true facts in the case. Statistics carefully compiled by governmental agencies throw new light on the situation. In the thirteen principal cities in the country union wage scales since 1907 have increased from a low instance of 9 per cent in New Orleans to 38 per cent as a high instance in the Pittsburgh district. These figures are based on the contracted hourly or weekly wage on the contracted scale of hours. They do not take into account, as I interpret them, extra pay derived from overtime work. Most illuminating of all of the data is that which compares the present purchasing power of the union wage throughout the United States as measured in food at the present price of that element in the cost of living with the same conditions in 1907. This data proves conclusively that the advance in the price of commodities which men must buy to live increased in much greater proportion than did the compensation of the same men. Rates of wages per hour advanced from a relative of 90 in 1907 to 114 in 1917, an increase of 27 per cent. Retail prices of necessary commodities advanced from a relative of 82 in 1907 to 146 in 1917, an advance of 78 per cent. It is obvious from government statistics that the wage and hourly scale referred to by the Department of Labor and by Mr. Gompers constitute in purchasing power today only 70 per cent of the earning capacity of the workmen in the same craft ten years ago. From this it will be deducted that the wage scale still lags far behind the scale of prices reached by the commodities which determine standards of living for the worker. To go further with statistical matters of interest in the study of this subject, approximately $3,000,000,000 were collected from industries during the year period ended June 30, 1918, as a proportion of profits from industries in excess of normal pre-war earnings. What proportion of the total excess profits of the country is represented by these figures, I have no means of determining with precision. A certain familiarity with the law, its extension and its operations justify the assumption that not more than 40 per cent of the actual excess profits were absorbed in taxes over the period named. On this assumption, not less than $7,500,000,000 was earned by industry of the United States in excess of normal earnings, affecting thereby the distribution of the burden of the cost of conducting war upon the whole mass of the people. The laborer paid his fair part in this by virtue of the differential between his wage increase and the increase in the cost of living. Likewise in this connection the Bureau of Census and personal investigation reveals the fact that the ratio of wages to the total aggregate cost of production, distribution and sale is on the average more nearly 40 in each 100 parts than the 70 so frequently referred to by the advocates of immediate wage reductions.

If a solution of the problem is to come at all, it must come by cooperative consideration of the problem.

The labor problem of today is "the problem of problems" confronting every government. It is a problem with which is inevitably linked the whole question of human advancement. It is no longer a matter to be left within the states to the casual and mediocre appointee. It deserves personal consideration along practical, constructive lines at the hands of every chief executive. It offers opportunity for service which carries with it unparalleled pos-

sibilities of reward in the form of rapid approach to what should be the ideal of every government—a happy, harmonious, and prosperous people.

BITUMINOUS PRODUCTION FALLS BELOW 10,000,000-TON MARK

The production of bituminous coal in the week ended January 18, is estimated by C. E. Lesher, of the Geological Survey, at 9,943,000 tons, a decrease of 423,000 tons, or 4 per cent compared with the week of January 11, but an increase over the same period of 1918 of 16.5 per cent. The daily average in the week of January 18, 1919, is estimated at 1,657,000 tons, compared with 1,422,000 the same week of 1918 and 1,738,000 tons in 1917. Production in January, 1917, was not hampered by storms such as were encountered in January, 1918, nor by lack of market as this year, as many consumers are using coal from storage accumulated last summer and production is probably less than current consumption.

The estimated production of bituminous coal from April 1, 1918, to date, is 476,563,000 net tons, an increase of nearly 36,000,000 tons or 8 per cent over the corresponding period of 1917-18.

Estimates of the production of Pennsylvania anthracite show continued improvement in the output which, for the week of January, 1918, is 1,786,000 net tons, compared with 1,651,000 tons the previous week and 1,719,000 tons the corresponding week of 1918. Although production during the coal year to date is more than 1,500,000 tons less than the corresponding period of 1917-18, the current needs of the country for anthracite are apparently being fully met, because of the careful distribution of domestic sizes by the Fuel Administration and the warmer weather this winter compared with last winter.

Lack of business continues to be the limiting factor affecting production of bituminous coal, the average loss of operating time from this cause being reported as 15.5 per cent or nearly one day a week. Every district, except Alabama and Westmoreland, Pennsylvania, reported loss of time because of no market in the week of January 11, the percentage ranging from a few tenths in the eastern fields to 64 per cent, or four days a week, in southern Ohio. The only districts reporting running time of 90 per cent or greater were Central Pennsylvania, Cumberland-Piedmont, Maryland and the far western fields.

Comparison of the summaries for this year and last show the great change in conditions In December, 1917, and January, 1918, the limiting factor was transportation disability, with car shortage accounting for loss in working time of from 10 to 25 per cent, and no loss because of lack of demand. At the present time losses reported because of car shortage are insignificant and no market is the limiting factor. Labor troubles and mine disability in the two years were approximately the same.

Shipments of coal to New England in the week ended January 18, both by all-rail and tidewater, increased over the week ended January 11. Baltimore was the only port to show a decrease.

Shipments through rail gateways were nearly 116,000 net tons, compared with 106,000 tons the week of January 11 and 195,689 tons average weekly April 1, 1918, to January 18, 1919.

Tidewater shipments were 195,000 tons, compared with 149,400 the week of January 11, and 321,565 tons average for the coal year to date.

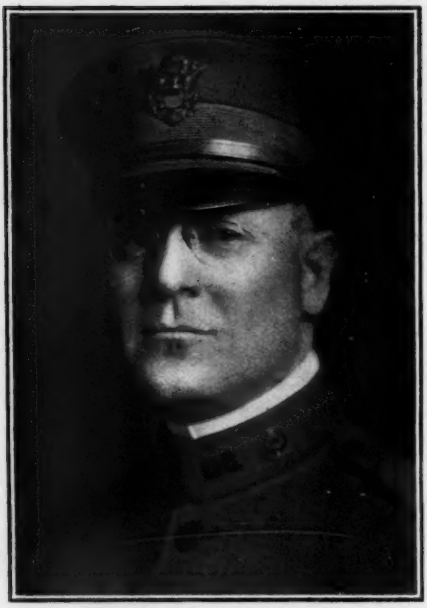
Bituminous coal dumped at North Atlantic ports in the week ended January 18, was 706,000 net tons, an increased compared with 561,565 tons the week of January 11, of 144,500 tons or 26 per cent. Baltimore recorded a decrease, but both New York and Philadelphia and Hampton Roads had substantial gains.

The production of by-product coke in the week ended January 18 was 553,610 tons, an increase over the week of January 11 of nearly 26,000 tons, or 5 per cent. This increase was due, in part, to increased capacity, and in part to better demand for coke and repaired plants. Increase in capacity were reported from Pennsylvania, where additional ovens were operated at the New Clairton plant, and in Colorado and at Youngstown, Ohio. The percentage of capacity reached in the week of January 18 was 83.9 compared with 81.0 per cent the previous week. Various reasons were assigned for the increase from 4.5 per cent to 7.7 per cent in capacity lost for other causes, among others delay occasioned through transportation difficulty in getting empty cars placed for loading.

NO ALSACE POTASH UNTIL JUNE, AT LEAST, SAYS BOARD

France will be unable, at least until April, to ship potash from the potash mines of Alsace. The War Trade Board announces that it has received authentic and official information to that effect from the French High Commission in the United States. These advices further indicate that for the next few months practically the entire potash output of the Alsatian mines will be urgently required for agricultural purposes in France.

It is the view of the War Trade Board, based upon this information, that even under the most favorable circumstances, no potash from Alsace could be available in the United States for agricultural uses before June, 1919, and that, therefore, it will be necessary that the United States rely entirely upon its domestic potash production for the coming spring season.



MAJ. J. M. MOREHEAD.

Who did notable work in Washington during the war as Chief of the Coal-Gas Products Section of the War Industries Board.

MINE RESCUE CARS HELP DURING INFLUENZA EPIDEMIC

The following letter to the chief mining engineer of the Bureau of Mines from D. Harrington, is self-explanatory:

"While recently at Butte the crew on Car 5 informed me that for the past several weeks the influenza epidemic had been so bad that the ordinary car activities have been almost totally curtailed. However, the shortage of doctors and nurses in the Butte district and the severity of the epidemic in Butte, which has had practically three times as many deaths per 1,000 inhabitants as have occurred in Denver, has given the Bureau of Mines and other men trained in first aid an opportunity to help when their help was most needed. Mr. Boardman of the Anaconda Copper Company, Mr. Schoning of Car 5, as well as Mr. Sparks also of Car 5, together with about ten or twelve others trained in first aid and mine rescue, devoted themselves for about two weeks to nursing influenza patients and towards taking helpless men, women, and children from rooming houses, cabins, etc., in the Butte district to the hospitals.

"The Anaconda Copper Company devoted one of their two ambulances to this work and for several days at a time the first-aid men were employed in the hauling of patients from their homes and living places to the hospitals. However, the soldiers later on got into this work and at the present time the first-aid men have been relieved. Nevertheless, the work performed by the first-aid men in Butte has been of an exceptional character, and Mr. Boardman, Mr. Schoning, and Mr. Sparks and others certainly deserve credit for work done."

CLAY PRODUCTS INDUSTRIES SAVE 1,381,000 TONS OF COAL

Official reports from the clay product industries, covering the first six months of 1918, show a saving of 1,381,000 tons of coal, resulting from the orders issued by the United States Fuel Administration restricting the amount of fuel to be used by plants in this industrial group. The restrictive orders were made necessary in order that essential war activities might not suffer for an adequate supply of fuel.

When final compilations are made on the basis of complete returns officials are confident that the total saving will approximate not less than one and a half million tons for the half-year period in these industries. Present reports indicate that under the orders curtailing the fuel supply of this industry, which became effective April 13, last, there was effected 37 per cent reduction in the normal amount of coal consumed.

The figures announced are of particular interest inasmuch as the curtailment orders were so worded that plants were permitted to burn their allotment of fuel at any time during the year and many concerns chose to operate at full capacity until their fuel allowance was consumed and then close down entirely. It is apparent, therefore, that had the war continued and the necessity for curtailment remained, the figures for the last half of the year would have revealed a very much greater saving.

Fuel Bureau of Labor Will Continue

The Bureau of Labor of the United States Fuel Admisintration will continue to function until the proclamation of peace.

Under an agreement published July 23, 1918, all labor questions pertaining to the coal mining industry were placed definitely under the jurisdiction of the Fuel Administrator, this arrangement having the sanction of the Secretary of Labor and of the United Mine Workers of America. The agreement included the provision that any dispute failing of settlement between the parties at interest must be submitted to the Fuel Administration for final disposition without stoppage of work.

ANALYSIS OF COAL AND COKE EXPORTS FROM THE U. S.

Just at this time, when a Coal Export Association is being formed, there is particular interest in information with regard to our present exports. An idea may be obtained from the following statement taken from the figures of the Bureau of Foreign and Domestic Commerce covering exports of anthracite and bituminous coal and coke, by customs districts and countries, during October, 1918:

Customs districts and countries.	Anthracite, tons.	Bituminous, tons.	Coke, tons.
Me. and N. H.—			
To Canada	66	19	138
Vermont—			
To Canada	1,570	12,391	326
Massachusetts—			
To Canada	37	...	...
N. Foundland	6	...	...
St. Lawrence—			
To Canada	132,136	218 569	2,906
Rochester—			
To Canada	82,427	90,049	338
Buffalo—			
To Canada	244,399	289,894	52,928
New York—			
To Canada	11,565	...	...
Dutch W. I.	...	1,030	...
San Domingo	...	15	...
Bermuda	...	...	100
Guatamela	...	...	2
Danish W. I.	...	...	2
Argentina	...	...	94
Venezuela	...	...	5
Philadelphia—			
To Cuba	1,957	...	...
Danish W. I.	...	426	...
Brazil	...	409	...
Maryland—			
To Cuba	...	5,103	...
Brazil	...	2,615	...
Peru	...	...	1,584
Virginia—			
To Bermuda	...	538	...
Panama	...	17,605	...
Mexico	...	1,639	...
Other Br. W. I.	...	3,960	...
Cuba	...	79,489	69
Danish W. I.	...	1,983	...
Dutch W. I.	...	2,138	...
French W. I.	...	1,170	...
San Domingo	...	1,340	...
Brazil	...	35,437	...
Chile	...	22,419	...
Uruguay	...	10,121	...
South Carolina—			
To Cuba	...	2,500	...
Uruguay	...	3,711	...
Georgia—			
To Cuba	...	1,450	...
Florida—			
To Cuba	...	1,099	...
Mobile—			
To Cuba	...	300	...
New Orleans—			
To Br. Honduras	...	1	2
Guatemala	...	51	...
Honduras	...	240	...
Nicaragua	...	251	...
Chile	...	7,500	...
Mexico	...	...	47
Sabine—			
To Mexico	5	...	...
San Antonio—			
To Mexico	197	592	5,819
El Paso—			
To Mexico	210	4,714	3,729
Arizona—			
To Mexico	...	12,215	9,872
Southern California—			
To Mexico	3	6	...
San Francisco—			
To Salvador	1	...	5
Washington—			
To Canada	...	280	154
Chile	...	6,483	...
Alaska—			
To Canada	...	3	...
Montana & Idaho—			
To Canada	...	42	...
Dakota—			
To Canada	...	1,115	58
Duluth & Sup.—			
To Canada	...	1,348	48
Michigan—			
To Canada	1,351	105,593	19,248
Ohio—			
To Canada	8	940,926	21,323
Total	456,029	1,888,801	118,796

Loading of Coal

A report from the Car Service Section of the Railroad Administration on the quantity of coal of all kinds loaded by roads for the week ended January 11, 1919, as compared with the same period of 1918, is as follows:

	1919.	1918.
Total cars bituminous	177,327	184,075
Total cars anthracite	31,971	36 363
Total cars lignite	4,417	5,204
Grand total all cars coal	213,715	225,642

A summary of reports for the week ended January 18, 1919, as compared with the same period of 1918, based on actual reports from most roads, but with the estimated results of some roads, follows:

	1919.	1918.
Total cars bituminous	169,157	148,773
Total cars anthracite	34,876	31,889
Total cars lignite	4,081	5,081
Grand total all cars coal	208,114	185,743

Total increase of 1918 and 1919 up to and including week ended January 18, 1919, over the same period of 1918, 555,872 cars.

ENGINEERS TELL OF DESTRUCTION OF FRENCH MINES IN LENS REGION

How the retreating Germans wrecked the rich coal mines of Northern France was described in a report to United States Fuel Administrator Harry A. Garfield, by a special commission sent by the Fuel Administration to study conditions abroad. Three years, the report said, is the French engineers' estimate of the time required to efface the devastation enough to permit full production. The great reserve stocks of coal which had been built up in France are gone, and even the stocks of public utilities are at the danger point. With an apparent necessary minimum of 60,000,000 tons a year, France has been getting along in wartime on 40,000,000 tons, enduring severe privations, and is in great need of relief.

Dynamite and the oxy-acetylene torch completed demolition of the mines in the Lens region, previously well under way through shell fire. Where the mines were within French lines, mining operations were carried on only at night amid scenes of utter desolation. Returning members of the commission said that in Lens, no house rose above the first story, and the earth was churned for miles, until the underlying rock stratum was mingled with it. At Lens, the mine shaft was found only after careful search.

Tales of wild underground combats were brought by returning members of the mission. In one instance, where workings of two mines opened into each other, the Germans sent parties down one shaft to destroy the workings in the hands of the French. Every French survivor of the battle in the black caves a thousand feet underground, received the Croix de Guerre.

Of the territory around Lens the report said:

"The conditions varied from complete demolition to partial destruction of surface structures. Thus the operation at Lens was completely razed, nothing remaining but a heap of debris. The shaft was located with difficulty and is filled with wreckage. Not a structure remains standing in Lens and at the time of our visit there was no living inhabitant. The desolation must be seen to be fully realized. The Courrieress mine east of Lens has been somewhat damaged by shell fire, but much more by dynamiting and the use of oxy-acetylene gas flames on the part of the Germans at the time of their withdrawal. Practically all of the other mines visited had suffered comparatively little from shell fire, and been worked by the Germans until shortly prior to their departure, the damage consisting of burning or dynamiting steel towers, tipples and other structures and machinery, and of such a character as to render operation impossible.

"On account of the destruction it was not possible to make an examination of interior conditions, but we were advised that water had risen in the shafts, and the workings must of necessity be filling up, inasmuch as it had not been possible as yet to resume pumping in the district.

"What interior damage was done by the Germans is not known, but the French engineers were inclined to discredit reports to the effect that shaftings had been dynamited and that quicksand and marl, which, in this section are thick and heavy water-bearing, had been permitted to flow into the mines."

During the five years preceding the war, the coal consumption of France was slightly less than 60,000,000 tons a year. Of this amount 40,000,000 tons were produced in France. French production fell at the outset of the war to 20,000,000 tons. Importations continued at about 20,000,000 tons, the main Lens field being occupied by the Germans throughout the war. In 1917, production was raised to 28,000,000 tons.

Eventually, increasing scarcity and rising prices forced the French government to assume complete control of the industry. Severe restrictions were imposed upon the use of coal for household purposes and a system of rationing was introduced. All coal was bought by the government and resold at a price having no necessary relation to its cost. Thus 80 francs a ton was charged for coal for household purposes, while industries were charged 120 francs a ton. The intention of the government was to conduct the whole transaction without incurring loss. The northern fields which suffered most severely produce 65 per cent of the French output of coal and there are no other French fields comparing in size or quality with these. The plants razed by the Germans had been "of the most modern and permanent character, of extra heavy steel and masonry construction, with electrical and compressed air equipment, and in some cases, by product coke ovens. The shafts ran from 1,300 feet at the Lens mine to 2,700 feet at the Paul Schneider shaft at Lourches."

"France," says the report, "must look outside of her own borders for at least half of her coal supply for some little time to come. There is every prospect that with the present shortage in England, Great Britain will experience difficulty in meeting anything more than her present demands. In that event, it is not improbable that there will be a demand of very considerable proportions for American coal, although comparatively little coal has ever been exported from the United States to France in the past."

Restriction on Importation of Pyrites Removed

The War Trade Board announced, January 15, that the restriction upon the importation of pyrites has been removed. Licenses will now be issued, when the applications are otherwise in order, for the importation of pyrites from any country

HEROIC STEPS TAKEN BY THE BRITISH TO MEET FUEL PROBLEMS

Details of the heroic measures taken by the British government to meet fuel problems vital to the winning of the war are presented at length in a memorandum supplemental to the general report of the commission sent abroad by United States Fuel Administrator Harry A. Garfield.

Where the United States was able to increase its coal production, Great Britain, during the five years of the war suffered a loss of approximately 185,000,000 tons mined, using the 1913 production figures as a basis for computation.

The steps taken to meet the situation included:

Government control of mines;

Restriction of export, which suffered to the extent of 160,000,000 tons of the 185,000,000 mentioned;

The rationing of households, designed to conserve eight million of the forty million tons normally consumed annually for domestic purposes; and

"Zoning" consumers to the mines nearest them, through which the railroads were able to take up the burden added by loss of shipping from submarines.

Something of the magnitude of the disorganization wrought in the British coal trade by the advent of the war may be realized by a glance at the statistics dealing with the rush of mine workers to the colors when the war began.

In the first year of the war 191,170 miners enlisted and in June, 1916, the total had risen to 285,000. On the latter date the net loss of mine labor had been reduced to 153,000 men through extraordinary efforts to return soldiers to the mines, but this latter program was interrupted early in 1918, by the necessity of returning 75,000 miners to the battle lines.

"Uneven distribution" is assigned in the report as the next gravest of the initial problems of the war."

The railroads had been brought under government control at the beginning of the war, and the railway department of the Board of Trade simultaneously began supervision of the relief of local shortages. But as the result of experiences in the first winter of the war, a Coal Exports Committee was appointed by the president of the Board of Trade in May, 1915, with power to increase domestic supply by restricting exports.

Distribution commitees, the report continues, were set up in the second winter of the war, but it was not until July 4, 1917, that the zone system was installed by the Coal Transport order under the Defense of the Realm Regulations. The report says that the coal set for the zoning operations, the saving of 700,000,000 ton miles annually, seems to have been attained, and adds:

"It is asserted, moreover, that but for this saving, the railroads would not have been able to meet the increased demands enforced upon their facilities by the submarine menace."

The rationing system has not been in operation a sufficient length of time, the commission found, to allow for an effective check on its results. Rationing was applied to the whole country only in the fall of 1918, though London was rationed in the winter of 1917. Where the French system is to ration coal upon a per capita basis, the British allowance was computed upon the number of rooms occupied.

The report points out particulary how the exports restrictions, aside from keeping within the country the necessary quantities of coal for war operations, made coal "a very effective weapon in the conduct of the war, not only in assisting allies, but in exacting favorable terms with neutrals, as well as securing much needed materials, supplies and shipping."

The Coal Exports Committee determined not only the amounts to be exported and the consignee, but the price of sale.

Taking up the subject of government control, the report makes it clear that operation of the mines was left in the hands of the owners, and that their profits were reduced when their output fell below pre-war figures, although not in exact proportion.

The Coal Mines Control Agreement (Confirmation) Act, passed by Parliament, February 8, 1918, embodied the substance of long negotiations between the mine owners and the Coal Controller, Mr. (late Sir) Guy Cathrop, who was general manager of the London and Northwestern Railway when appointed in February, 1917.

Collieries were guaranteed a "standard" profit when their pre-war output was maintained, and a portion of their excess profits taxes went to the fund from which the Coal Controller paid his administration expenses and allowances to mines which failed to maintain their pre-war profits.

"For the purpose of compensation," the report says, "the Controller takes as a standard, the profit and the output in the pre-war periord which was adopted for excess profits only under the Finance Act of 1915 (i. e. the average of the best two out of the three years before the war or the best four out of six.")

Of excess profits earned a colliery was allowed 200 plus five per cent. Eighty per cent of the remainder, according to the report, is collected by the Inland Revenue as Excess Profits Duty and fifteen per cent allocated to the Coal Controller's finances, known as the Coal Excess Payments (Fund).

No figures were available, says the report, but it was rumored that this fund gave promise of a considerable deficit.

Coupled with the inroads of the army upon the ranks of the miners, "excessive absenteeism" on the part of remaining miners is mentioned in the report as a chief contributing cause to the loss in production.

The assumption of government control of all coal mines followed very shortly upon labor troubles in the South Wales field in 1916. On December 1, of that year, the Government assumed control of those fields, and on March 1 following, Mr. Calthrop was given direction of all coal mining operations as well as of distribution, price and consumption of coal. An advisory board made up of representatives of mine owners and mine workers was appointed to assist him.

"Labor troubles have required constant and continuing attention," says the report, "and there is no little unrest at the present time. . . . The English authorities assert that they do not anticipate any serious difficulty, but the labor situation is, to say the least, uncertain."

WEEKLY COAL REPORTS STOPPED; VALUABLE RECORD ESTABLISHED

Weekly coal supply reports will not be required from industrial consumers and dealers after February 1, it has been anounced by the United States Fuel Administration. More than 60,000 of these reports have been received each week by the administration since last June, and the tabulated results have been utilized in accomplishing the equitable distribution of fuel.

The individual reports have been treated confidentially by the State Fuel Administrators and by the Washington headquarters and have been of great value in the problems of coal distribution during the past year, and will be invaluable as records for future use.

Labor Decisions

Can a union organizer go into a locality and secure members when the workers have agreed not to join a union so long as they remain in their employer's service? Can a state extinguish private employment agencies by denying to them the right to collect fees from workers seeking positions? Can state legislatures piece out the action of Congress in regard to the redress granted to employes injured in interstate commerce?

The three questions noted above were put up to the Supreme Court of the United States, which answered "no" in each instance. The first case was before the various courts for more than ten years, being the proceedings of the Hitchman Coal Company, of West Virginia, against John Mitchell and others; the second arose under a statute of Washington attempting to do away with fee offices for the placing of workers, while the third reversed the courts of New York and New Jersey in their grant of compensation benefits to employees injured in interstate commerce without a charge of negligence being made against the employer.

In the field of new legislation, laws fixing minimum wages are found in several states, and their constitutionality was for some time in doubt. However, the Supreme Court, by an equally divided bench, last year sustained the Oregon law on this subject, and the courts of last resort of Arkansas and Minnesota took similar action in regard to like laws in their respective states.

Other interesting decisions are one affirming the right of a coal company to keep any person objected to off the streets of a village owned by it; one sustaining a law of Missouri requiring employers to give a clearance card or service letter to workmen leaving their service; one holding labor liable for loss of employment due to the malicious act of the union with regard to an expelled member, and one declaring the mothers' pension law of Utah constitutional.

Coke Production by Months

Figures on coke production by months during the year 1918 have been furnished to the United States Fuel Administration by the Geological Survey. These figures show an increase in the production of byproduct coke of 3,825,000 net tons, or 17 per cent, compared with the output of 1917. Beehive coke production decreased 8 per cent. The output of both kinds of coke was 56,670,000 net tons, compared with 55,606,828 net tons in 1917. This is an increase during 1918 of 1,063,172 net tons, or about 2 per cent. Following is the table:

	Beehive		By-product	
Months.	1917.	1918.	1917.	1918.
January	2,923,056	2,242,362	1,787,850	1,649,819
February	2,489,888	2,234,281	1,806,773	1,562,056
March	3,138,977	2,630,433	1,813,435	2,051,206
April	2,813,935	2,580,931	1,859,278	2,021,437
May	2,861,364	2,757,719	1,879,268	2,139,204
June	2,754,897	2,712,726	1,880,335	2,092,155
July	2,753,902	2,813,910	1,882,200	2,300,673
August	2,649,755	2,657,022	1,914,450	2,387,675
September	2,727,367	2,570,238	1,918,714	2,410,798
October	2,780,436	2,611,885	1,898,192	2,563,183
November	2,677,284	2,339,197	1,899,526	2,523,746
December	2,596,687	2,255,296	1,899,259	2,562,048
Totals	33,167,548	30,406,000	22,439,280	26,264,000

COAL PRICES AND ZONES, EXCEPT ANTHRACITE, END FEB. 1

Governmental restrictions on the prices of coke and all coal, except Pennsylvania anthracite, and the zone regulations covering the movement of these fuels by rail will be suspended February 1, 1919, it was announced January 17 by the United States Fuel Administration. Restoration of both zone and price regulations will be immediately liable should changing price, wage, labor, production, or other conditions command it, the announcement said.

The accumulation of stocks of bituminous coal sufficient to guarantee consumers a full winter's supply is one of the basic reasons for the suspension of the regulations.

On January 1 the average stocks of bituminous coal for the country were approximately sufficient for seven weeks' consumption, and in the regions farthest from the mines twenty weeks' supply was on hand.

Maximum prices at the mine for bituminous coal were fixed by presidential order of August 21, 1917, with a range of from $1.90 to $3.25 per ton in various districts. Unprecedented demand early in that year had sent the market up to $5, $6, and even $7.50 per ton, to the extreme demoralization of business. Adjustments subsequently were made, the prices at present ranging from $2.35 to $4.95 per ton.

Zone regulations were announced in March, 1918, dividing the country into fourteen districts, and are credited with having saved the railroad 160,000,000 car miles by eliminating cross hauls and allotting consumers to the nearest mines. The relation of this saving to the enormously increased production of coal in the United States is obvious when it is understood that storage of coal at the mine is not possible; that is, that cars must move continually from the mine if production is to be maintained.

Under the spur of war demand, production of bituminous coal in the United States in 1917 increased some 50,000,000 net tons over 1916, and there was a 12,000,000 ton increase in anthracite production. The railroads were required in 1917 to handle more than 60,000,000 tons of coal in excess of their 1916 load.

Under the high-pressure production campaign maintained by the United States Fuel Administration, the bituminous output in 1918 by the end of September registered an increase of more than 36,000,000 tons over the corresponding months of 1917.

The Fuel Administration called special attention to the fact that the prices established under the provisions of the Lever Act have been maximum prices, based on the cost of production rather than on quality of coal, and that in the return to normal a different relation between prices in the several fields, based as in normal times on quality of coal, may fairly be expected to obtain.

The Fuel Administration also stated that in the light of the so-called "Washington Wage Agreement" of October, 1917, whereby it was agreed to continue the wage scale then agreed upon during the war, but not beyond April 1, 1920, the wages of mine workers should not now be reduced, and it is expected that whatever prices are asked or secured for bituminous coal between now and the promulgation of peace will be based upon the present wage scale.

Attention is also called to the fact that the that the maximum prices and zone regulations on Pennsylvania anthracite coal, which is largely domestic, are not affected by the above announcement.

Bituminous Coal Production by Months

The estimates of bituminous coal production in the United States by months during 1918 have been completed and furnished to the United States Fuel Administration by the Geological Survey. These figures, which include lignite and coal made into coke, compared with the corresponding months of 1917, show an increase of 34,092,437 net tons for the twelve months. The figures by months are as follows:

Months.	1917.	1918.
January	47,967,354	42,607,206
February	41,352,711	44,384,937
March	47,868,652	48,631,115
April	41,854,320	46,590,570
May	47,086,452	50,927,195
June	46,824,646	51,758,214
July	46,291,572	55,587,312
August	47,372,226	55,732,092
September	45,107,956	51,757,334
October	48,337,726	52,885,513
November	47,689,801	44,386,987
December	44,037,147	40,634,525
Totals	551,790,563	585,883,000

Import Restriction on Monazite Sand Lifted

The War Trade Board announced, January 15, that the restriction upon the importation of monazite sand has been removed, and that licenses will now be issued, when the applications therefore are otherwise in order, for the importation of this commodity from any country.

Import Restriction on Manganese Lifted

The War Trade Board announced, January 15, that the restriction upon the importation of manganese ore or manganese dioxide from Asia and Australasia (W. T. B. R. 159, issued July 5, 1918) has been removed, and that licenses will now be issued, when the applications therefor are otherwise in order, for the importation of manganese ore or manganese dioxide from any country.

BUREAU OF MINES REPORTS ON BLACK SANDS INVESTIGATION

As a result of the unusual demand for platinum in the manufacture of materials needed in war, and of the decrease in supply through smaller imports resulting from the curtailed production in Russia, the United States was confronted with a serious shortage of this metal, and the market price rose to four or five times the price in 1914.

On account of this unusual situation and the need of ascertaining the possible increase of production in this country, the Bureau of Mines, decided to investigate some of the more promising localities on the Pacific coast where gold and platinum are known to be associated with such minerals as magnetite, chromite and ilmenite, with various siliceous minerals, the aggregate constituting what are commonly known as "black sands." The object was to determine whether any of these deposits are large enough and contain sufficient gold and platinum to be profitably exploited, and also to determine whether the base minerals present, especially the iron minerals, might be commercially utilized as a source of iron.

The investigation was entrusted to R. R. Hornor, metal-mining engineer of the Bureau of Mines, who proceeded to Marshfield, Coos County, Oregon, and spent a month in the field of Coos, Curry, and Josephine Counties, Oregon, and Del Norte County, California.

The results of the investigation may be summarized by the statement that in general the black-sand deposits are disappointing in both value and quantity; they rarely contain enough gold and platinum or occur in adequate quantity to be exploited at a profit.

There are, it is true, a few favored places where small areas of the black-sand show some previous-metal content, and these may become the site of small operations. The deposits in many places contain appreciable amounts of magnetite, chromite and ilmenite, but these minerals are generally too scattered and too poor to constitute an important source of iron ore, especially in competition with the known deposits of magnetite on the Pacific coast.

The chief difficulties in the profitable exploitation of these deposits are: first, lack of uniformity in occurrence and metallic content, and, second, the high cost of mining and treating the materials.

The first record of beach mining was in 1851 at Gold Bluff, Humboldt County, California, where gold was discovered on the sea beach associated with black and gray sands. This discovery was soon followed by others north along the California and Oregon coasts.

The period of greatest activity appears to have been from the beginning to the middle seventies, when the richest and most accessible of the old beaches were being worked. From that time, until the present, many futile attempts have been made to work both the present and the old beaches for the gold and platinum that they are supposed to contain. A few individuals, it is true, make a precarious living by working places along the coast where at certain times of the year the tide and storms effect a rough concentration of the sands; but wherever an attempt has been made to work the sands on a large scale, failure has invariably been the result.

Black-sand mining in the past has offered a fruitful field for unscrupulous promoters and has been especially alluring to men having little knowledge of mining or mining methods. These swindlers usually claim to have some wonderful machine or process for extracting gold and platinum from the sands.

Many of these agents made the most extravagant claims for the processes or machines. Some of these process men were so bold as to claim that they could recover gold and platinum where it could not be detected by any known scientific method. As a result, the Pacific coast is strewn with the wrecks of many kinds of experimental machines and of plants that bear evidence to the credulity and childlike simplicity of those who had been induced to invest their money in schemes for treating the sands.

Technical Paper 196, "Notes on the Black Sand Deposits of Southern Oregon and Northern California," has just been issued by the Bureau of Mines. Copies of this report may be obtained free of charge by addressing the Director of the Bureau of Mines, Washington, D. C.

COMPENSATION PAYMENT WITHOUT SUITS IN ALL BUT TEN STATES

The movement to compensate industrial accidents without suits to prove negligence of the employer is one of the most striking in the field of labor legislation in recent years. From indifference and even hostility hardly more than a decade ago, the principle has obtained acceptance in all but ten states of the Union, and the day seems not far distant when the obsolete system of damage suits and charges and counter-charges of negligence and contributory negligence will no longer be used in the disposition of industrial injury claims, says the Department of Labor. The subject is brought up to date in Bulletin 243 of the United States Bureau of Labor Statistics, which supplements earlier publications and presents the action of the courts and legislatures during the years 1917 and 1918. Five new states came into the compensation fold in 1917 and one in 1918, while amending and supplemental laws were enacted in more than thirty jurisdictions.

The fear once expressed that such legislation would entail undue burdens on industry has largely died out, both as a result of satisfactory experience under the acts and because it is becoming better understood that the compensation laws do not cause injury losses, but

only distribute the burden of them, relieving the weakest element of the system—the injured worker—and placing the cost of his injury on the industry as a whole. This realization has opened the way for amendments liberalizing the awards to be allowed, as regards both amount and duration, though the standard is as yet not of a uniformity nor of an adequacy that is shown to be desirable, the department holds.

Other things indicated in the bulletin are the shortening of the waiting time, for which, as a rule, no compensation is allowed, and the increase of the allowance of medical and surgical aid. A notable departure in this connection is the provision in the law of Washington for local funds, supported and administered by employers and employees jointly, with a view to the more effective and equitable administration of medical benefits. Other important provisions in this field are the removal of fixed limits to the medical and surgical aid to be furnished in some jurisdictions or its continuance for as long as necessary to reduce the compensation period, and the first allowance of this form of relief in two states.

The bulletin also presents a summary of important court decisions and commission rulings construing and applying the laws of the various states. Worthy of special note among these are the decisions of the Supreme Court denying the application of state compensation laws to employees of interstate carriers, thus emphasizing anew the importance of a provision for the redress of the injuries of this great body of workers on a basis not less favorable than that enjoyed by the industrial workers of the country generally.

While the volume is a simple record of facts and progress, it is nevertheless an argument for a wider extension of these laws territorially, and for a more complete inclusion of employed persons, so as to afford an adequate means of relief for workers of whatever class when laid aside from their work by the consequences of industrial accident or of the injurious conditions surrounding their employment.

MEN WHO DIRECTED WAR MINERALS WORK FOR BUREAU

Division of the War Minerals Work of the Bureau of Mines is shown by the following:

J. E. Spurr—Executive of the War Minerals Investigations of the Bureau of Mines. Formerly a member of the Committee on Mineral Imports of the Shipping Board.

H. S. Mudd—In charge of the War Minerals Investigation of graphite, antimony, and bismuth; Assistant Secretary of the War Minerals Committee; member of the Committee of the Bureau of Mines appointed to advise the Capital Issues Committee on mining and related applications; representative of the Bureau of Mines on Joint Information Board and General Contract for the minerals and their derivatives.

A. G. White.—In charge of the sulphur resources, also Administration Assistant to the Executive of War Minerals Investigations; Mine Economist for the Bureau of Mines; Secretary of War Minerals Committee.

J. E. McGuire.—In charge of the War Minerals Investigations of Chrome and Tungsten.

J. C. Orchard.—Assistant Mine Economist for Bureau of Mines. In charge of the editing and publication of a series of confidential reports on the political and commercial control of the mineral resources of the world.

W. C. Phalen.—Mineral Technologist for the Bureau of Mines; field work on manganese for the War Minerals Investigations.

G. J. Salmon.—In charge of labor problems connected with the metal and non-metalliferous mining industry; member of Committee on Mechanical Labor Saving Devices as applied to mining. Also in charge of matters related to industrial furlough from the Army in cooperation with the War Department.

A. W. Stockett.—In charge of the War Minerals Investigations for Potash resources. Also a member of the Committee of the Bureau of Mines appointed to advise the Capital Issues Committee on mining and related applications.

A. E. Wells.—In charge of sulphuric acid work for the Bureau of Mines in cooperation with the War Industries Board and the Chemical Alliance.

H. C. Morris.—In charge of the War Minerals Investigations of various metals. Also a member of the Committee of the Bureau of Mines appointed to advise the Capital Issues Committee on mining and related applications.

C. M. Weld.—In charge of War Minerals Investigation of manganese, iron ore, ferrosilicon, and later of chrome; representative of Bureau of Mines on Ferrous Section of the War Industries Board; now Assistant Executive of the Minerals Investigation.

F. H. Probert.—Engaged in special field work for the War Minerals Investigations; dean of the Mining Department of the University of California; consulting engineer of the Bureau of Mines.

H. A. Buehler.—In charge of the War Minerals Investigations of Pyrite; also State Geologist of Missouri.

Ferromanganese Importations

The War Trade Board announced, January 15, that licenses will be issued, when the applications therefor are otherwise in order, for the importation of ferromanganese from Great Britain, covering shipments which have been contracted for by American consumers prior to April 6, 1917. The affidavit of the importer or written statement from the consumer of the existence of the contract will be considered sufficient evidence.

COAL NOW MAY BE EXPORTED WITH FEW RESTRICTIONS

A measure of relief for European populations whose need of coal has been officially reported to be only second to the necessity for food was found in an announcement, January 15, by the War Trade Board, that applications will now be considered for licenses to export coal to Europe and to the Argentine and Uruguay.

Shipments for the countries contiguous to Germany will, however, be limited to the amounts prescribed in the several rationing arrangements for those countries, and will follow certain defined procedures.

Increase in shipping facilities, it was stated, made possible the action of the Board, and as these facilities are further augmented, still greater freedom will be granted in the issuance of licenses.

Licenses for the exportation of coal to the Argentine and Uruguay will include the condition that shipments must be consigned in care of the War Trade Board representative at Buenos Aires or Montevideo.

Restrictions on Fuel Contracts Amended

Abrogation of important restrictions regulating the making of contracts for coal and coke has been announced by the United States Fuel Administration.

The restrictions are amended substantially as follows:

Cross-hauling is no longer prohibited.

The filing of contracts with the Fuel Administration is no longer required.

The making of oral contracts is no longer prohibited.

Contract regulations remaining effective are:

All coal shipped is subject to requisition and diversion.

All contracts are subject to cancellation by the Fuel Administrator.

An additional regulation that contracts shall be at Government price, in effect at date of shipment, also remains as a precaution in case it should become necessary to reinstate prices on coke and bituminous coal, which, it has been announced, will be suspended February 1.

A restriction that contracts shall not extend for a period of more than one year was previously withdrawn.

Coal and Coke Requisition Orders Cancelled

All orders for the requisition of coal or coke, whether they are now outstanding or issued prior to the present time, have been cancelled and annulled, to take effect on January 31, it has been announced by the United States Fuel Administration.

PERSONALS

Mr. Agnew, president of the North Star Mines Company, Grass Valley, Cal., was in Washington during the month.

A. Scott Thompson, of Miami, Okla., is at the Washington office of The American Mining Congress. Mr. Thompson is chairman of the revenue legislation committee of that organization, and has done very excellent work in that capacity.

Otto Ruhl, of Joplin, Mo., was in Washington for a few days the latter part of January.

J. F. Callbreath is again at the Washington headquarters, after an extended trip through the western mining centers.

Walter Douglas sailed for France the latter part of January, where he will remain for several weeks.

Bulkeley Wells, President of The American Mining Congress, was in San Francisco for several days during the month.

R. C. Allen, who has been prominent in his work with the Treasury Department in regard to revenue matters, attended the organization meeting for the creation of a state chapter of The American Mining Congress, held at Joplin, January 28, 29 and 30.

Paul Hopkins, of Fairbanks, Alaska, at a meeting of the executive committee of the Alaska Chapter, American Mining Congress, was elected secretary of the chapter. Mr. James Trail, former secretary, resigned because of inability to give proper time to the work.

Record Custodian for United States Fuel Administration

Harold B. Harris has been appointed custodian of records of the United States Fuel Administration.

Mr. Harris has been a member of the Bureau of State Organizations of the Fuel Administration, and has had charge of retail prices. By the terms of the order, he has "authority to make such arrangements as shall be necessary and proper for the custody, safekeeping and disposition of all records and documents of the United States Fuel Administration."

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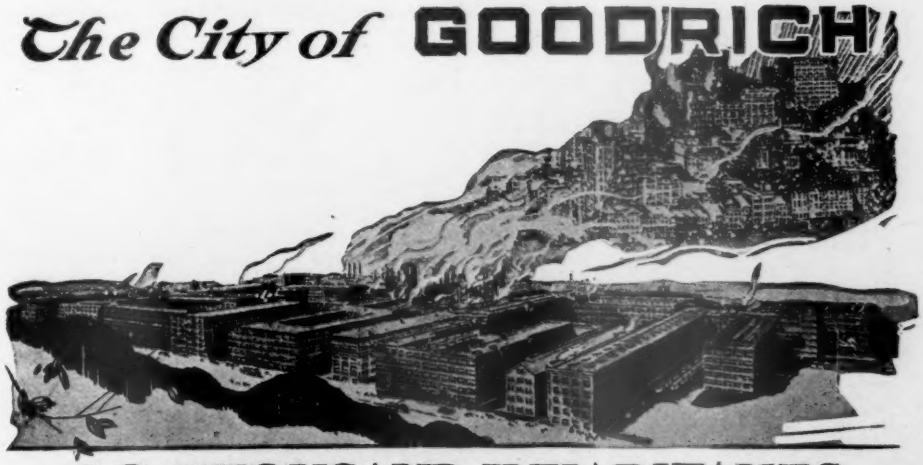

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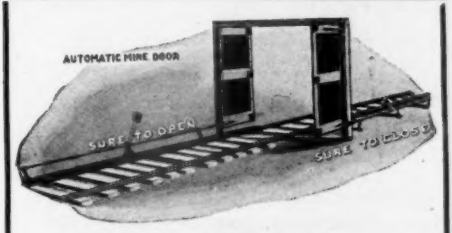

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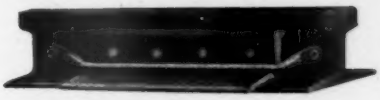

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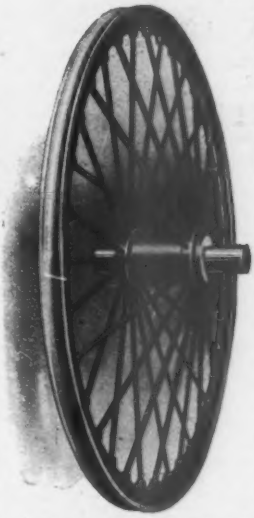

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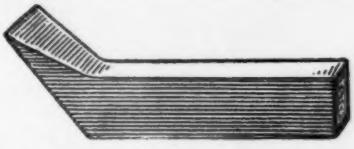

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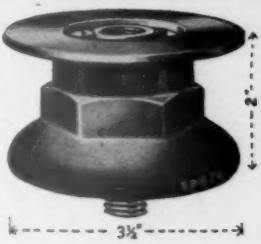

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It has a membership of practically 4,000 of the leading mining men of the country.

It maintains a special Washington office in order that it may constantly be in touch with the Departments and Independent Agencies, which are working in the interest of the mining industry, and in order that it may be of assistance to Congress in legislation affecting mining.

Some of its recent activities of interest are its work in connection with the War Excess Profits Tax; the passage of the Pittman Silver Bill; the lifting of the Embargo upon mining machinery and supplies, and its effort to secure relief for the manganese, chrome and tungsten and gold producers.

It believes in Cooperation. Its sole purpose of existence is Service. Tell your problems to **The American Mining Congress**, and secure its assistance in their solution.

See page 25 for full information as to how you may cooperate.

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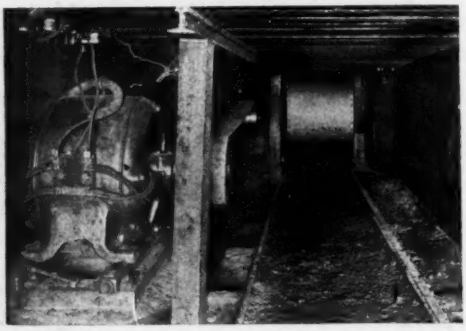

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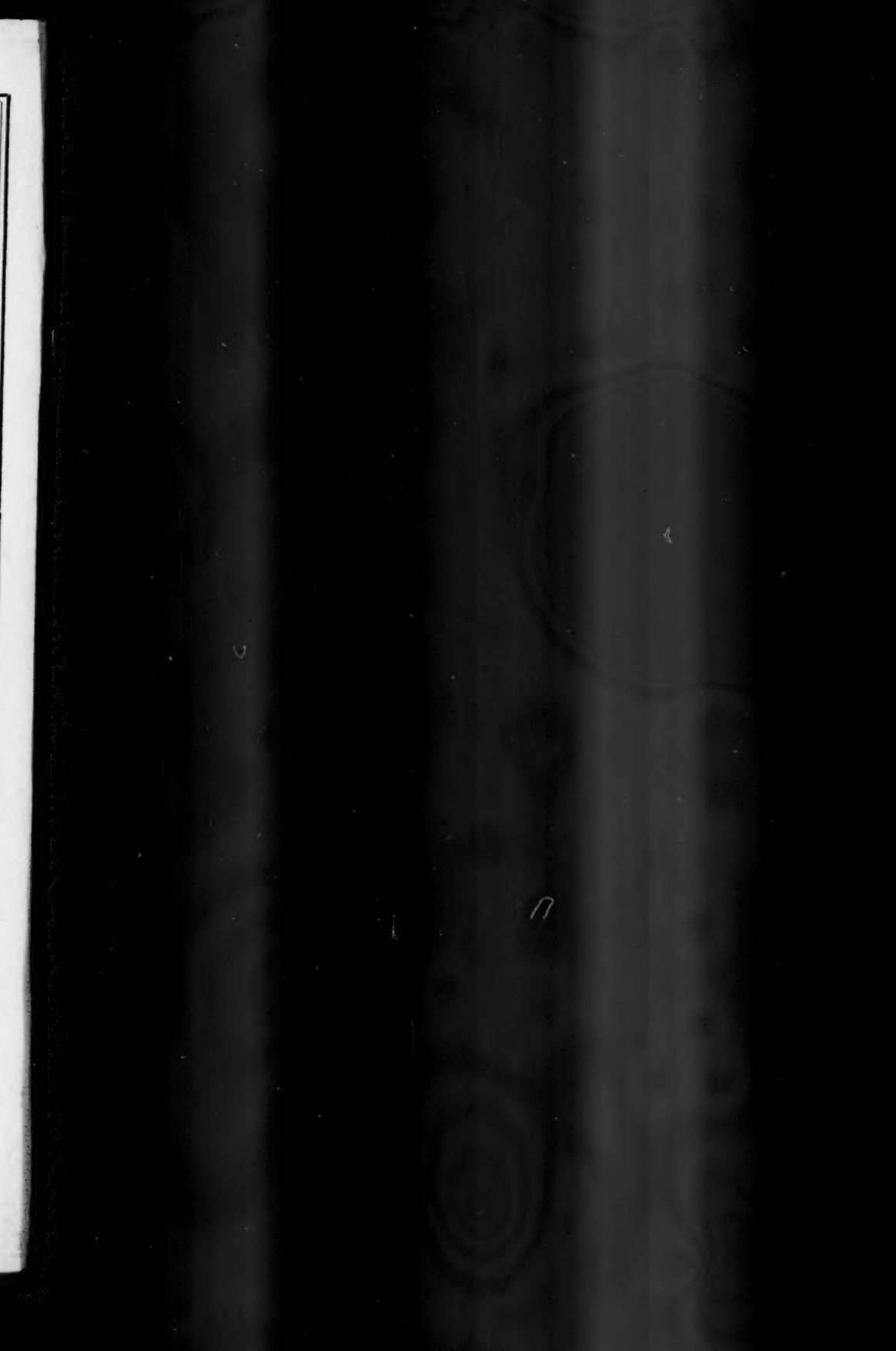
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